

Priority Habitat Areas Within Tier 1 and Tier 2 Watersheds

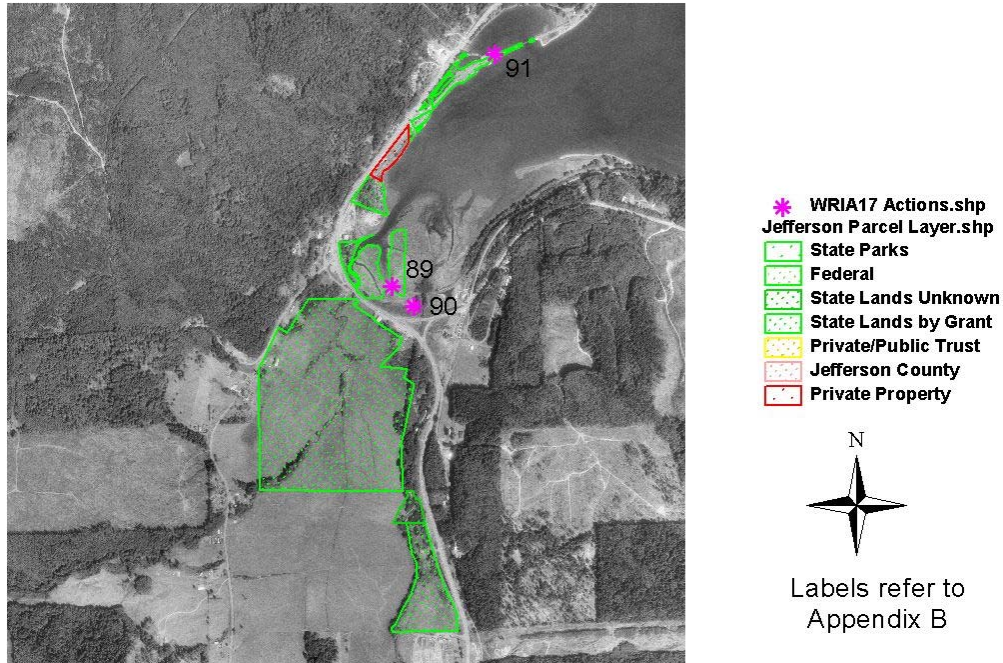
The highest priority for the HCCC Salmon Habitat Recovery Strategy is to protect and restore Endangered Species Act-listed salmon habitats, as well as the watershed processes that support and maintain those habitats. The following maps were constructed using Washington Department of Fish and Wildlife *SalmonScape* data, updated in 2003. Priority 1 habitat areas within individual watersheds were allocated based on current, presumed, and historic distributions of HC/ESJF summer chum salmon, Puget Sound chinook salmon, and bull trout. Priority 2 habitat areas were allocated based on current distributions of other anadromous (non-cutthroat) salmonids.

TIER 1 Watersheds		
WRIA 17:	WRIA 16:	WRIA 15:
• Salmon/Snow	• Dosewallips	• Union
• Big Quilcene	• Duckabush	• Tahuya
	• Hama Hama	
	• Skokomish	
TIER 2 Watersheds		
WRIA 17:	WRIA 16:	WRIA 15:
• Chimacum	• Lilliwaup	• Dewatto
• Little Quilcene		• Big Anderson
		• Big Beef

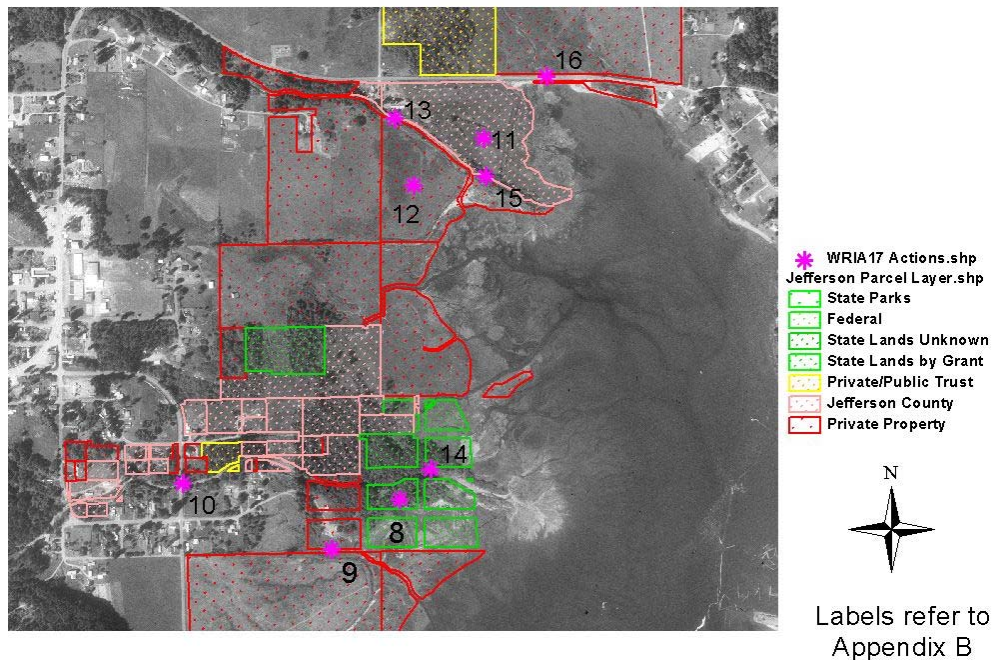
Priority Freshwater Habitat Areas			
	TIER 1	TIER 2	TIER 3
Priority-1	<ul style="list-style-type: none"> Listed species distribution Contributing processes to P-1 segments 	<ul style="list-style-type: none"> Listed species distribution Contributing processes to P-1 segments 	
Priority-2	<ul style="list-style-type: none"> Other anadromous salmonid segments not identified in P-1 Contributing processes to P-2 segments 	<ul style="list-style-type: none"> Other anadromous salmonid segments not identified in P-1 Contributing processes to P-2 segments 	<ul style="list-style-type: none"> Other anadromous salmonid segments not identified in P-1 Contributing processes to P-2 segments
Priority-3	<ul style="list-style-type: none"> Other freshwater habitat 	<ul style="list-style-type: none"> Other freshwater habitat 	<ul style="list-style-type: none"> Other freshwater habitat

Nearshore / Estuary Projects

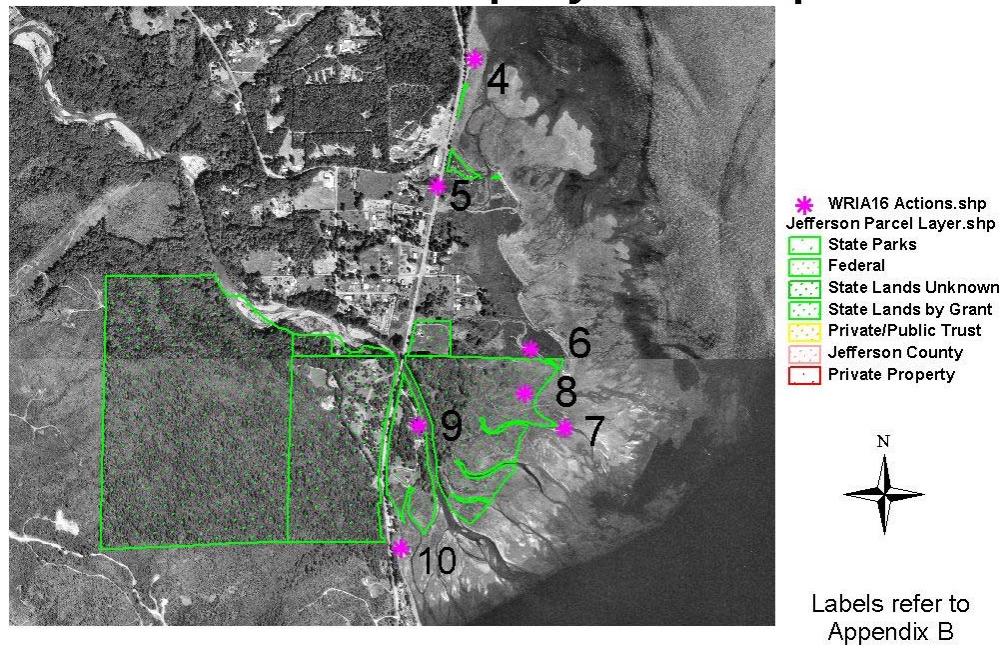
Snow/Salmon Estuary Recommendations and Public Property Ownership



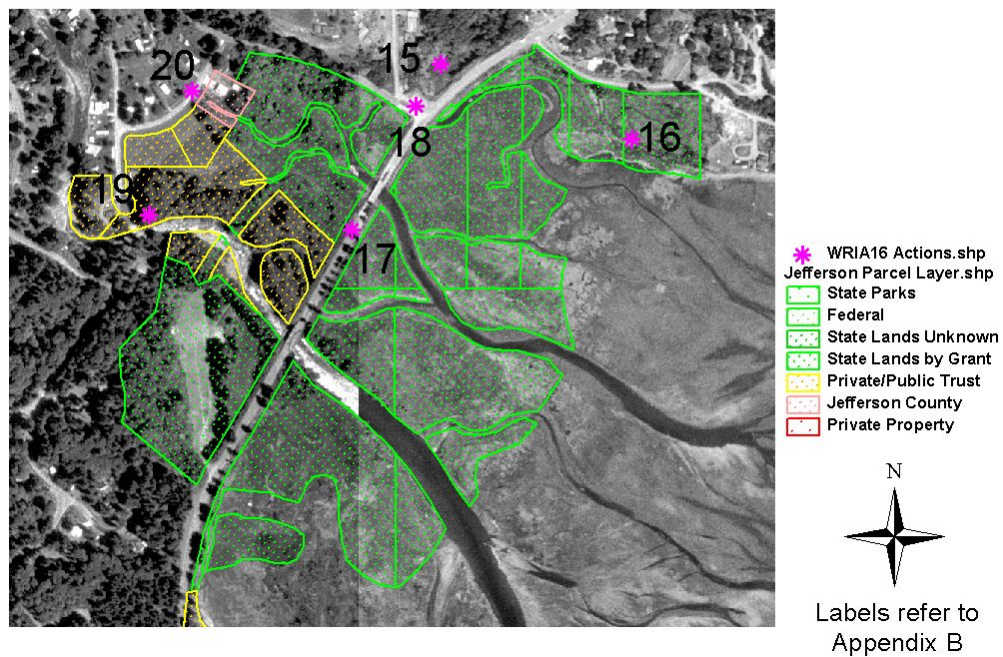
Big and Little Quilcene Estuary Recommendations and Public Property Ownership



Dosewallips Estuary Recommendations and Public Property Ownership



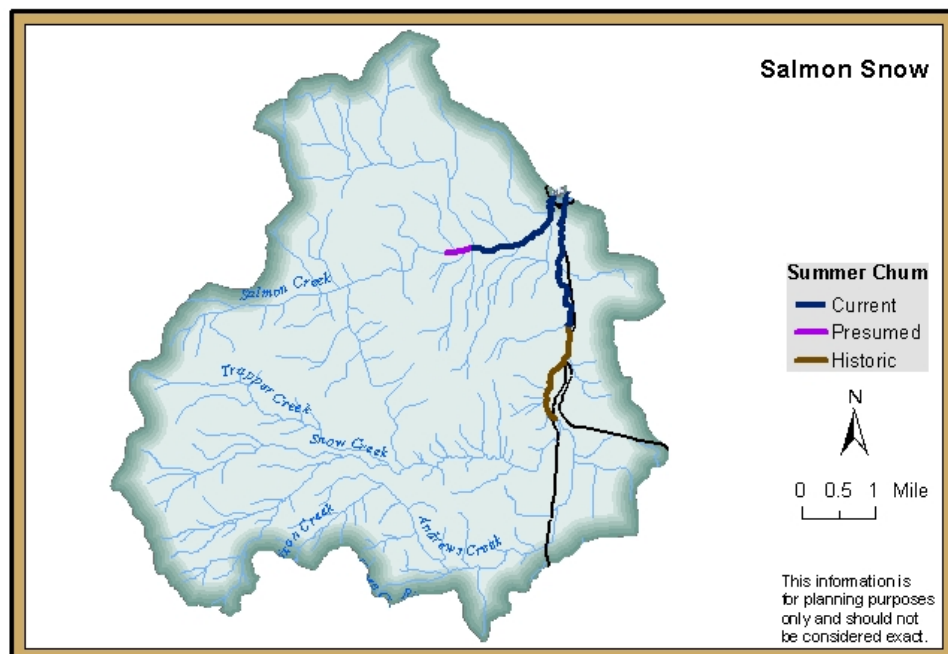
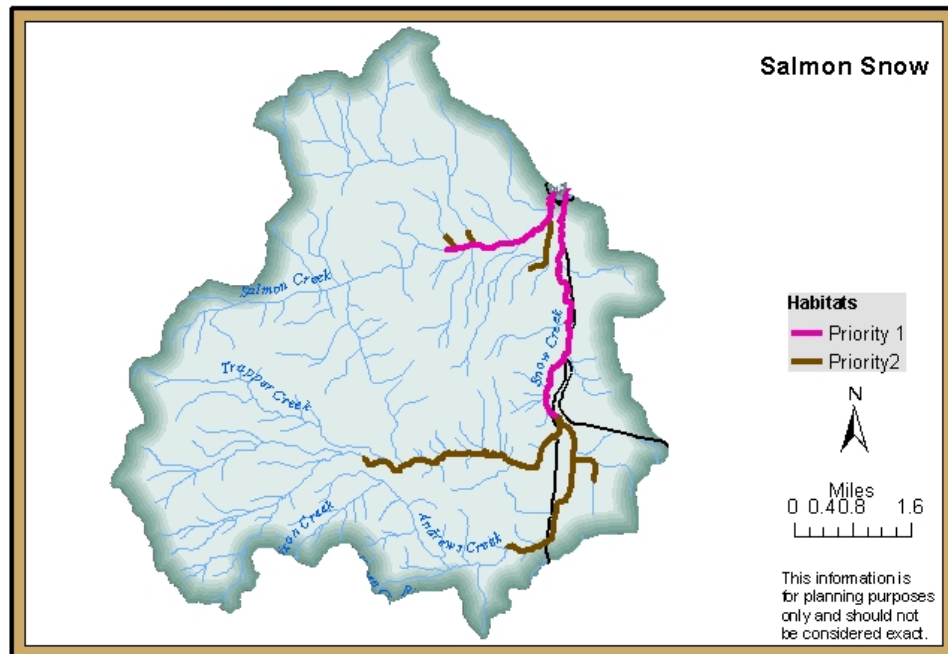
Duckabush Estuary Recommendations and Public Property Ownership

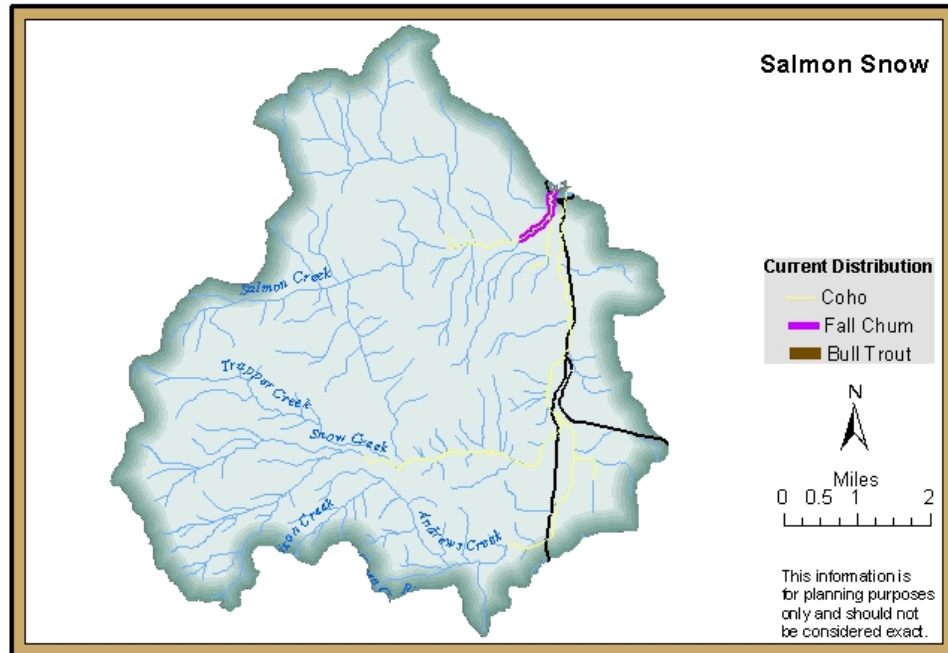


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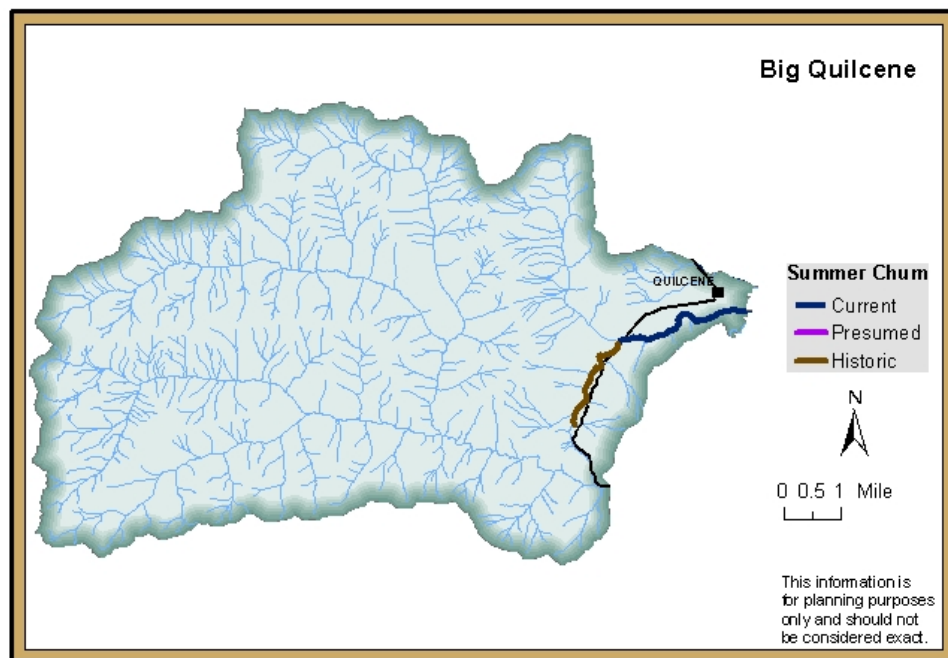
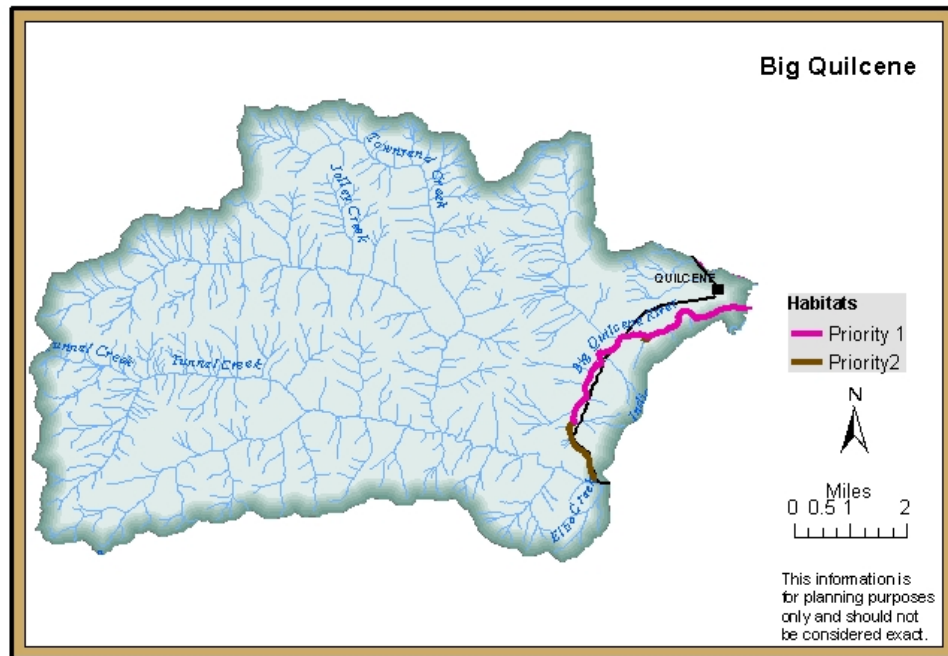
Watershed Projects (Tier I)

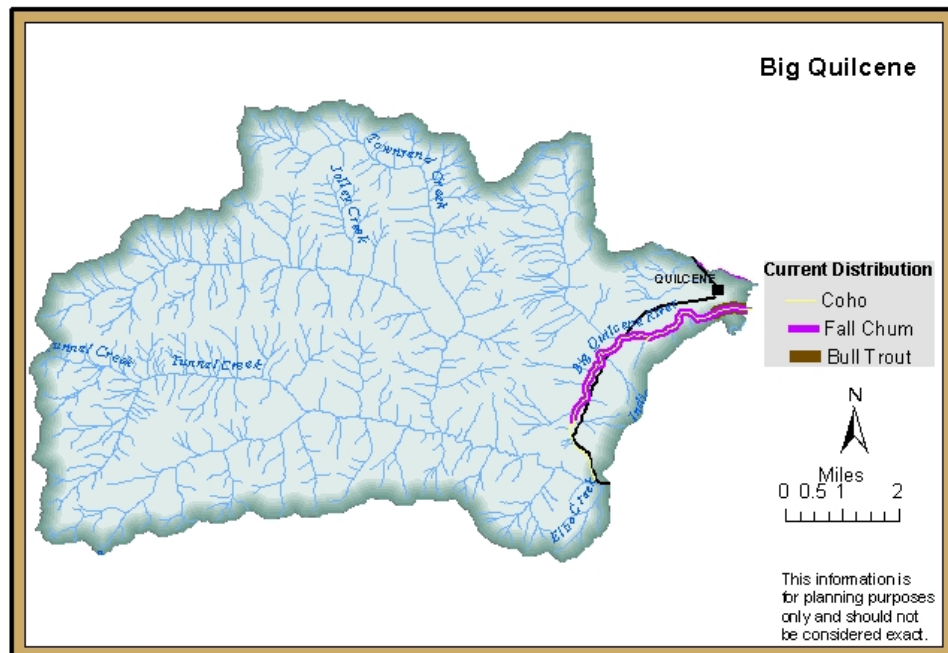
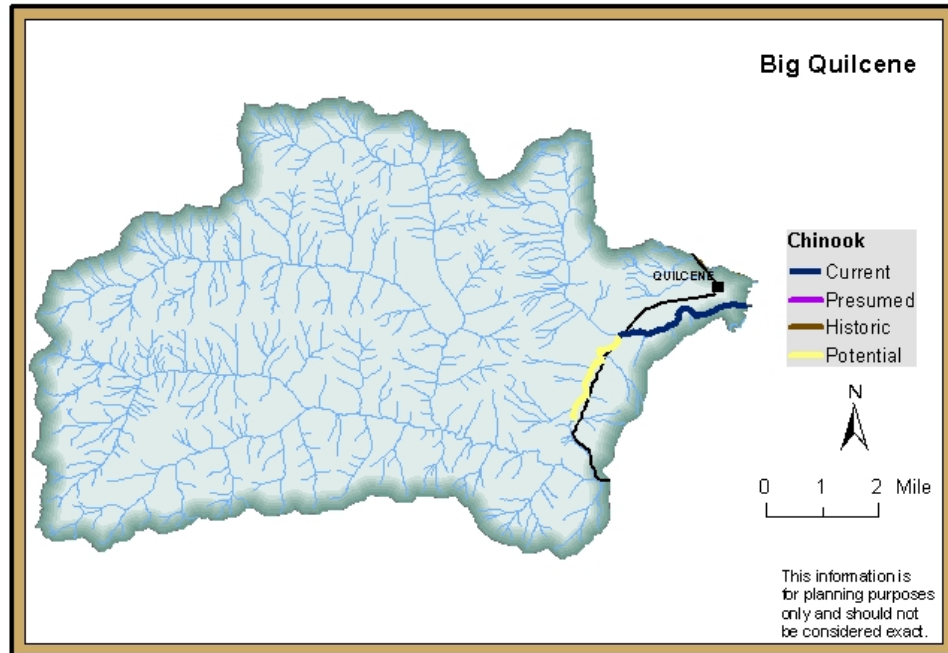
Salmon / Snow Creeks



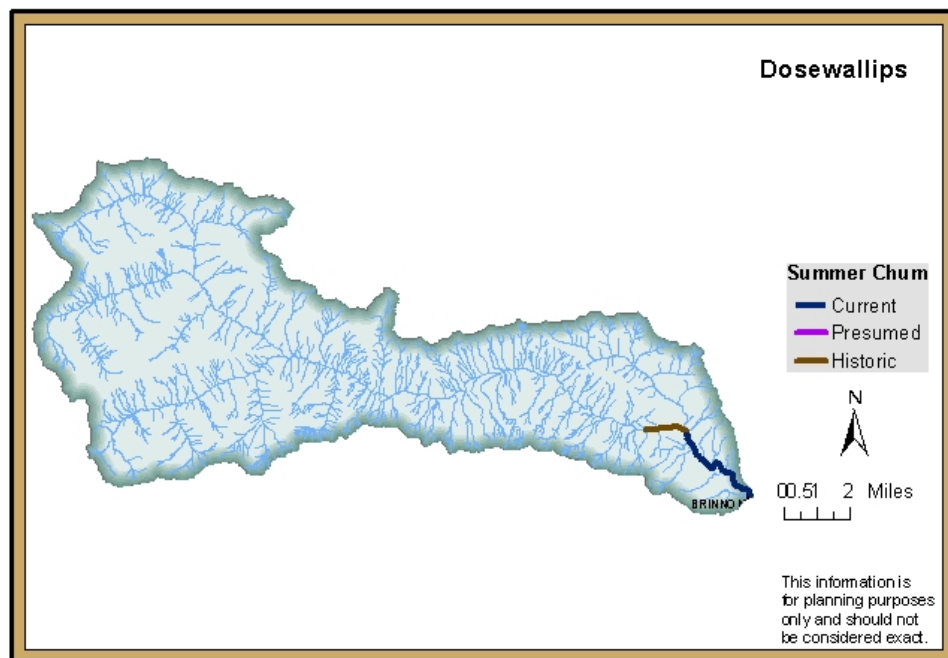
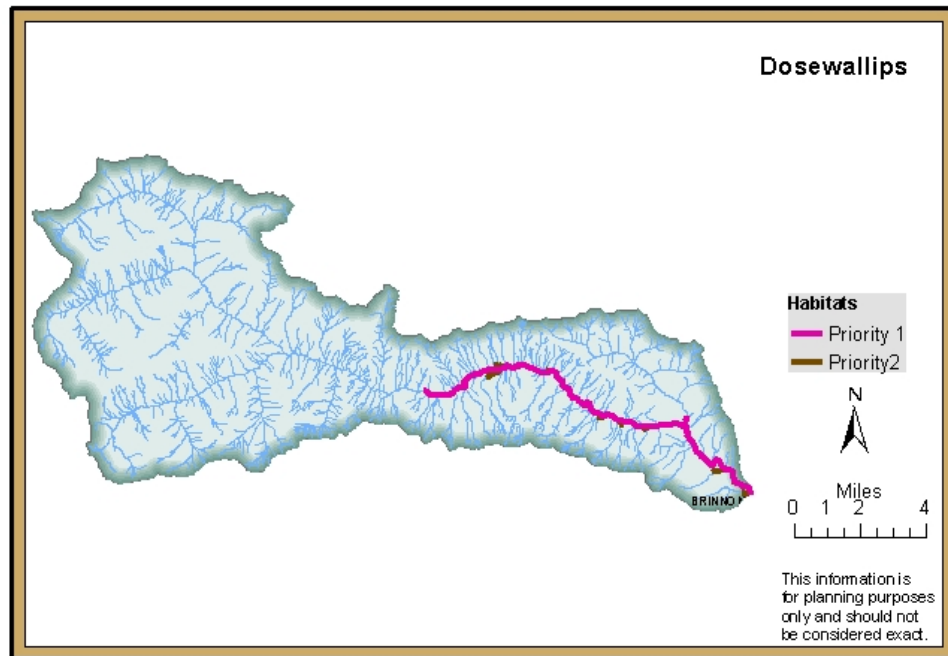


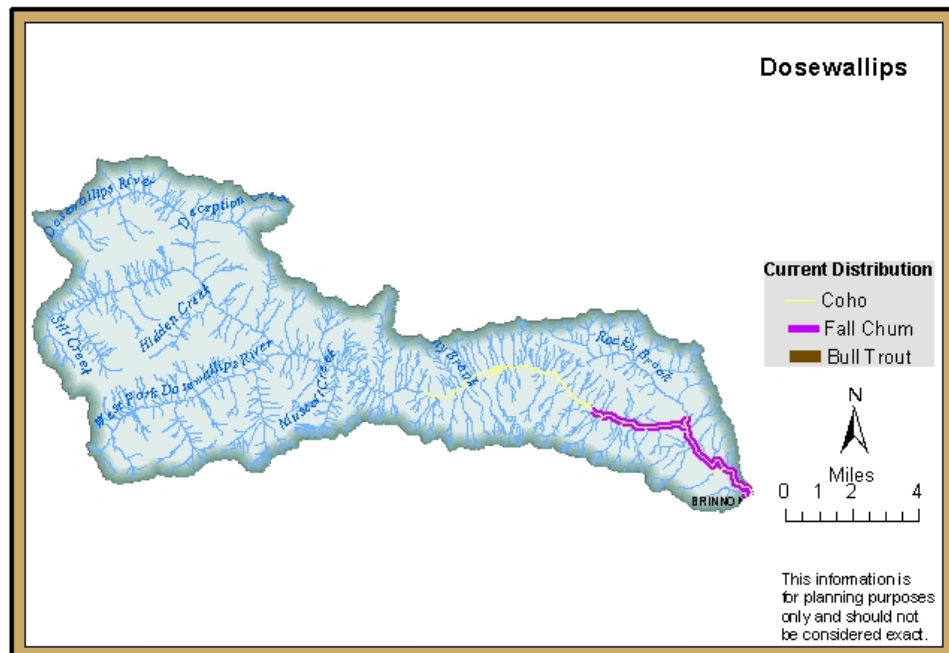
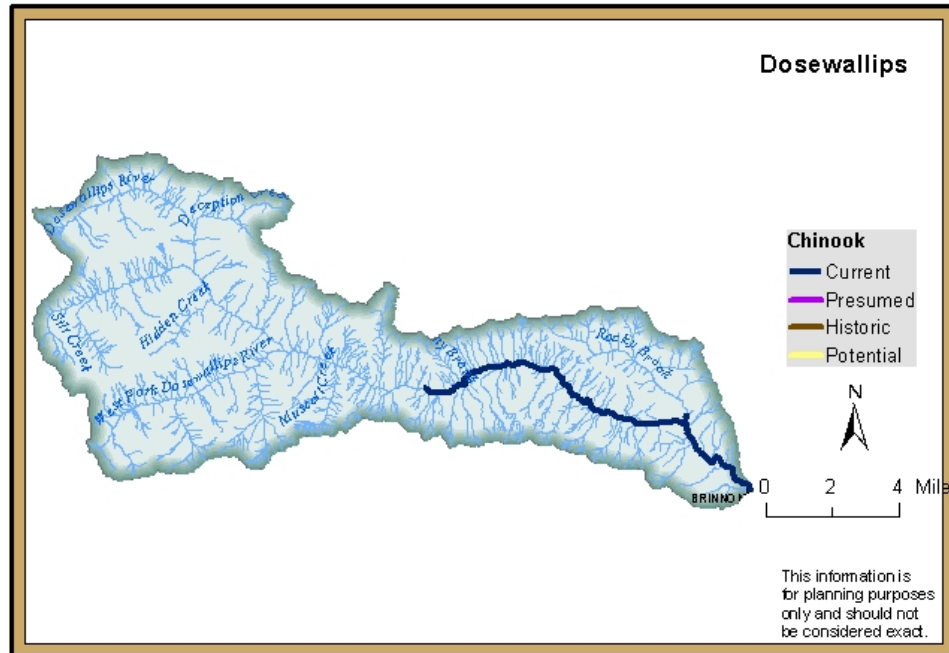
Big Quilcene River



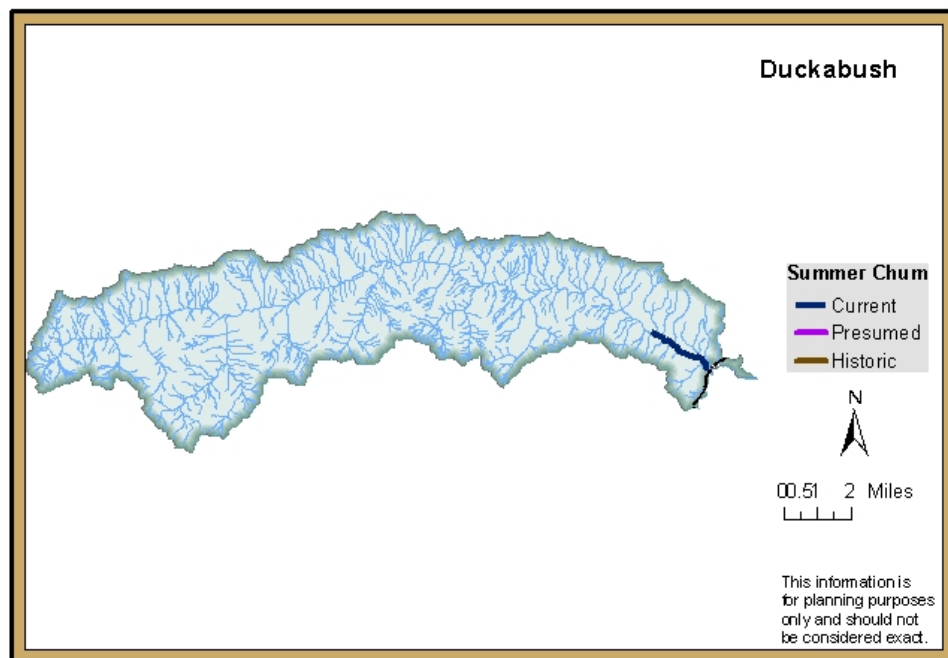
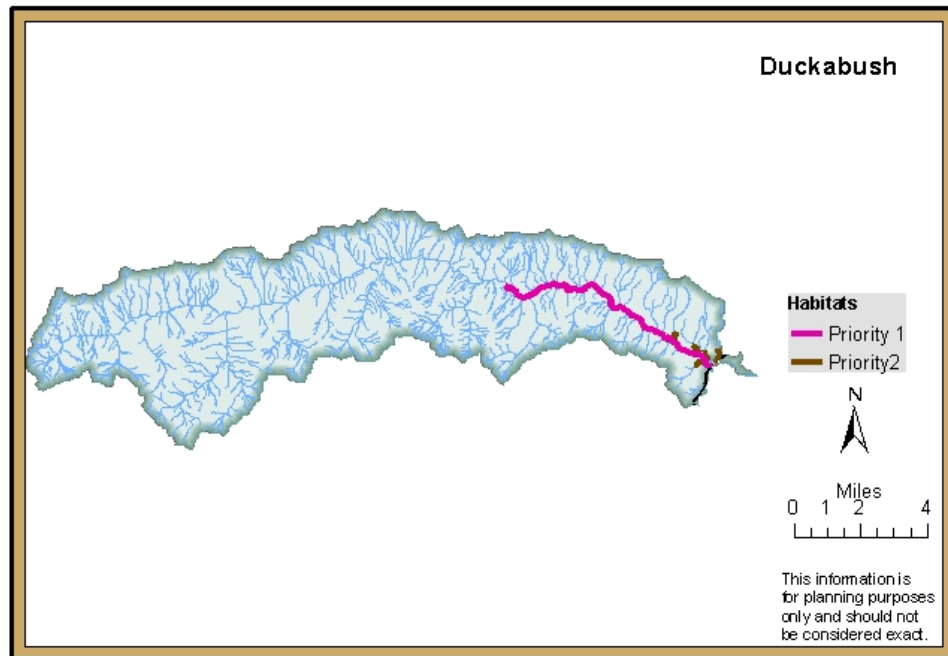


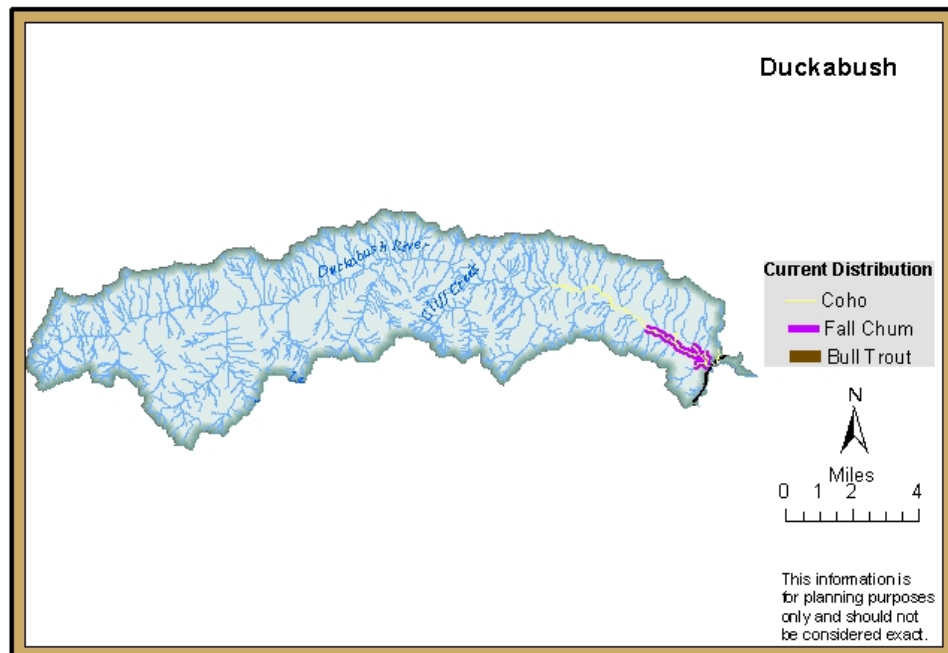
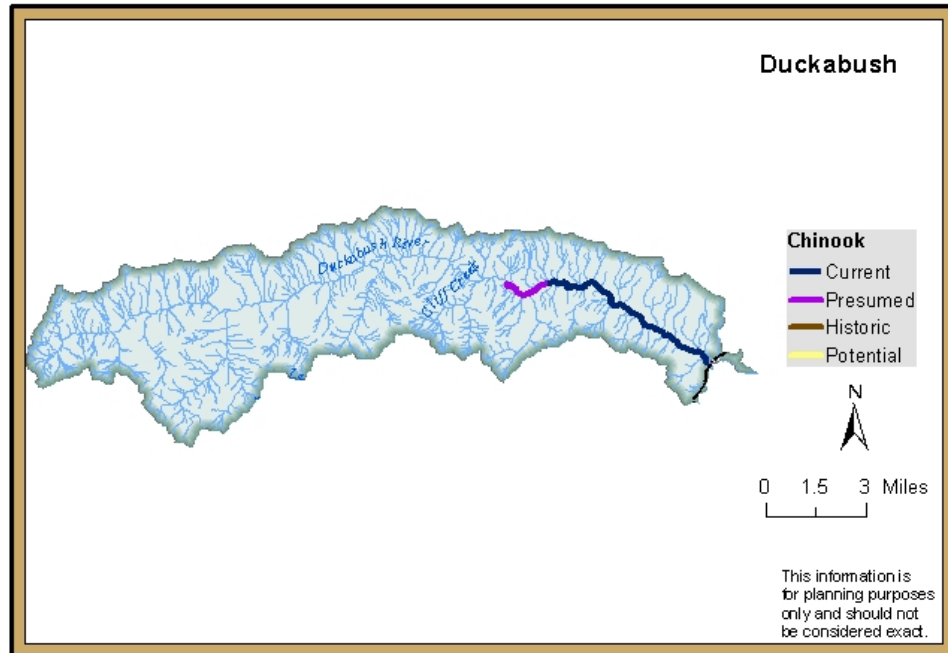
Dosewallips River



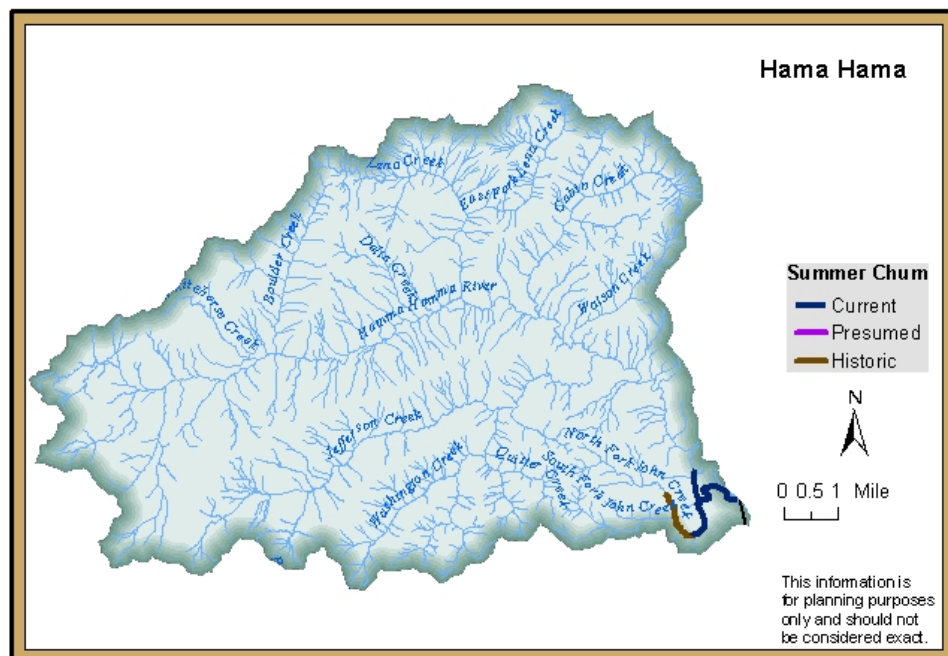
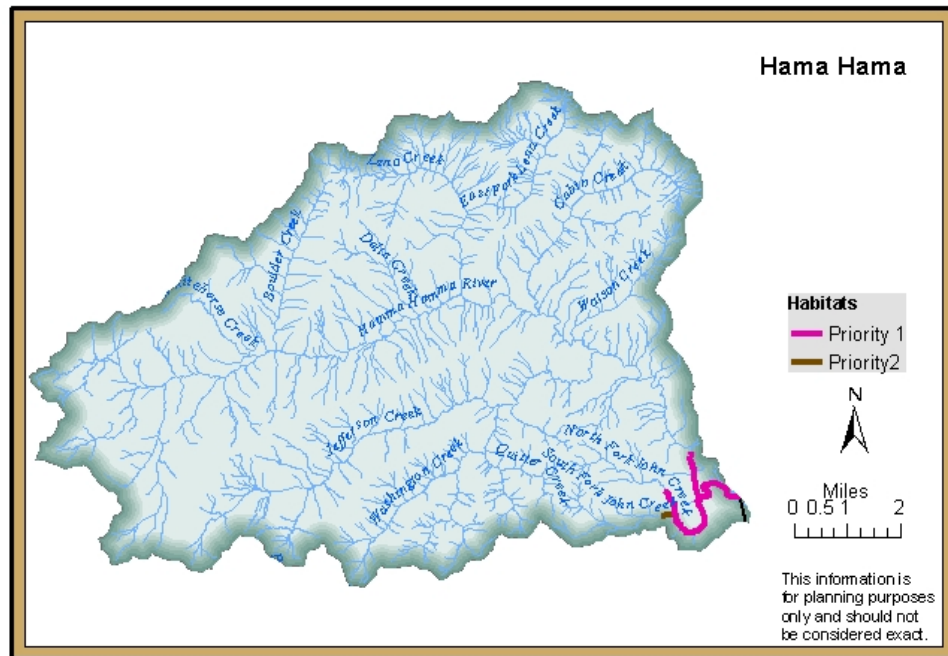


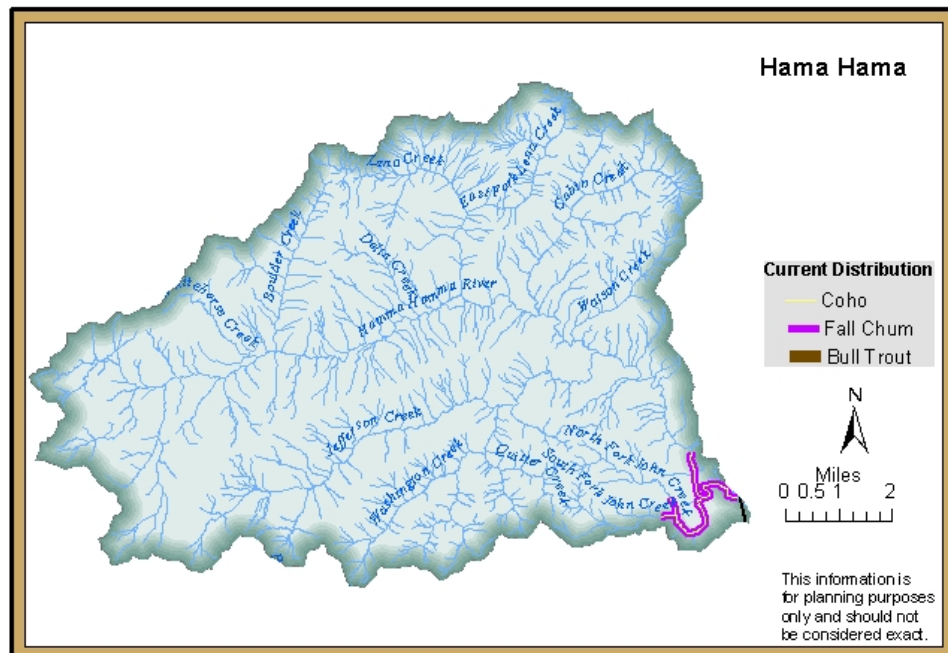
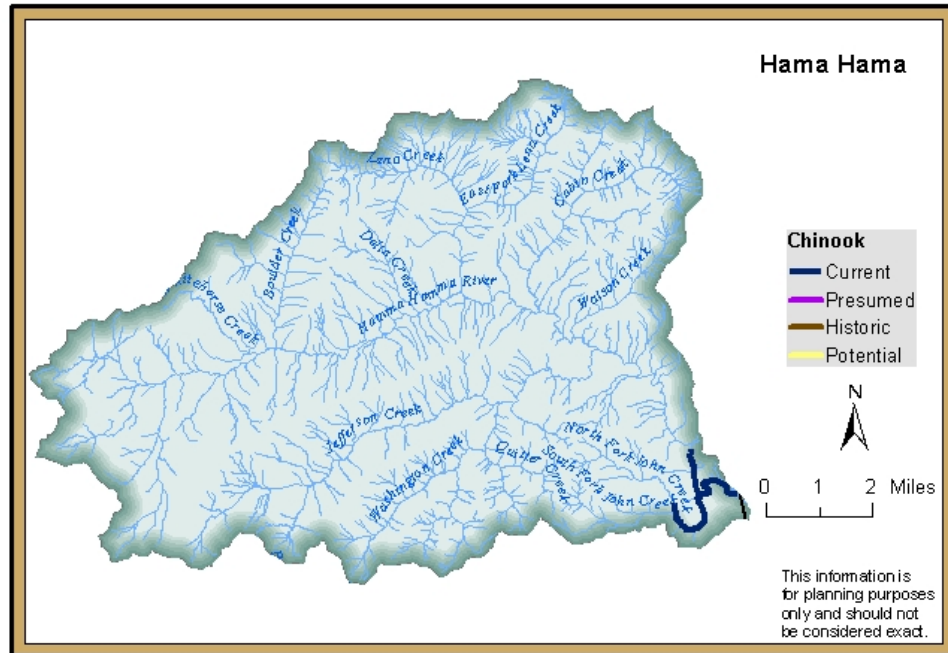
Duckabush River



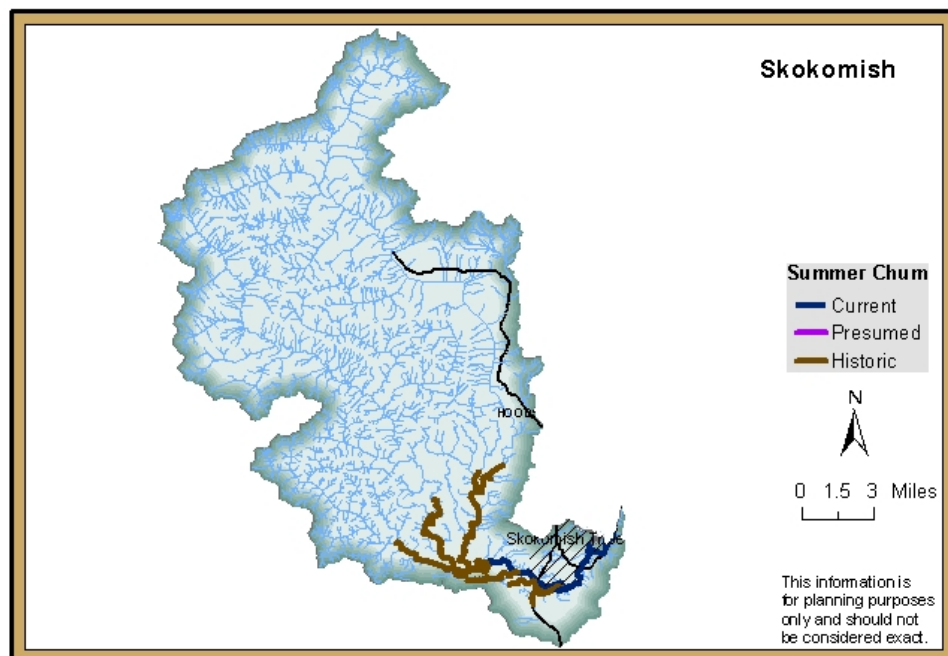
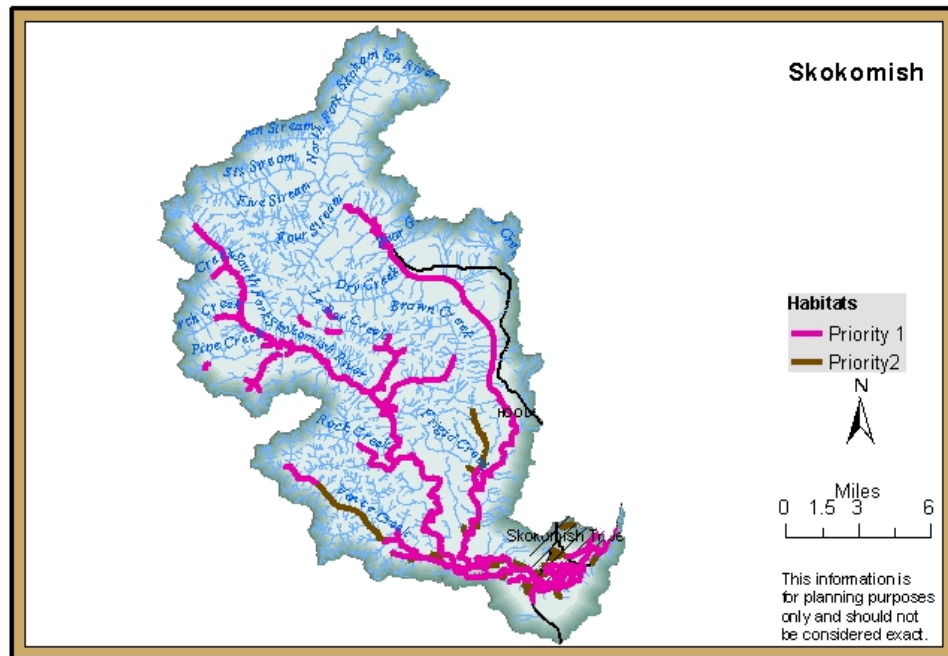


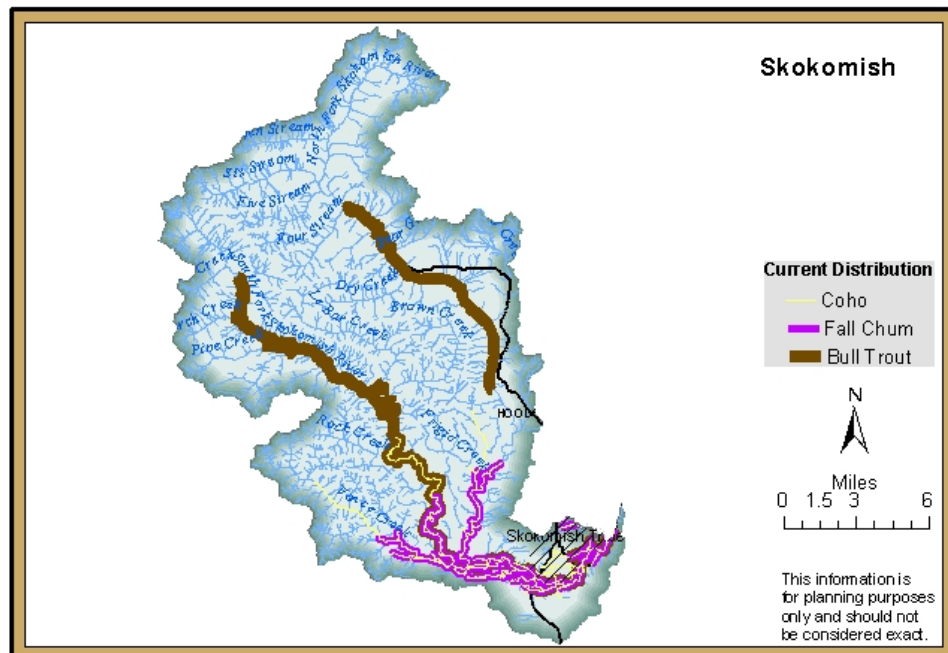
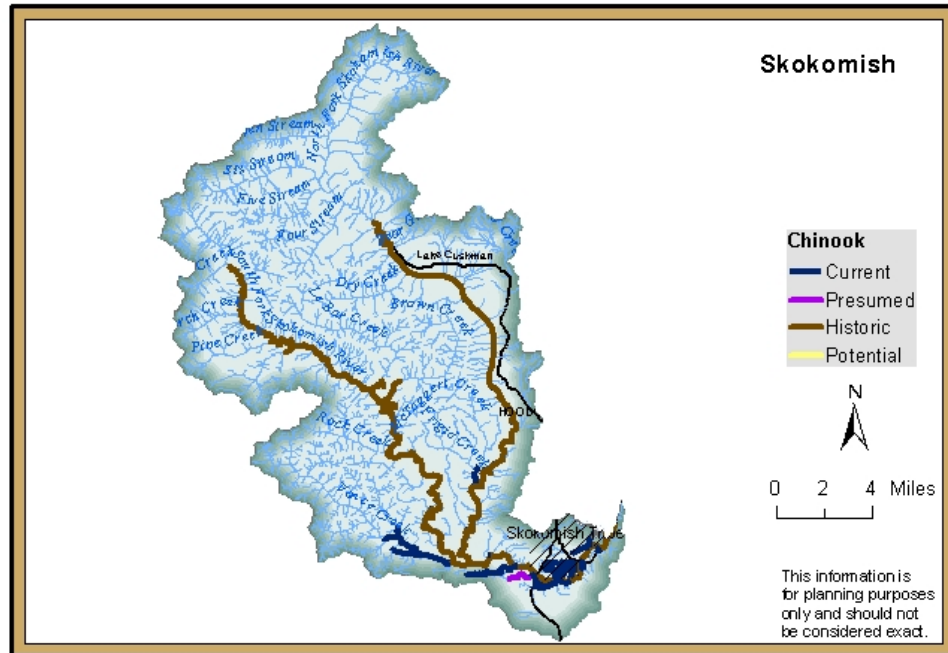
Hama Hama River



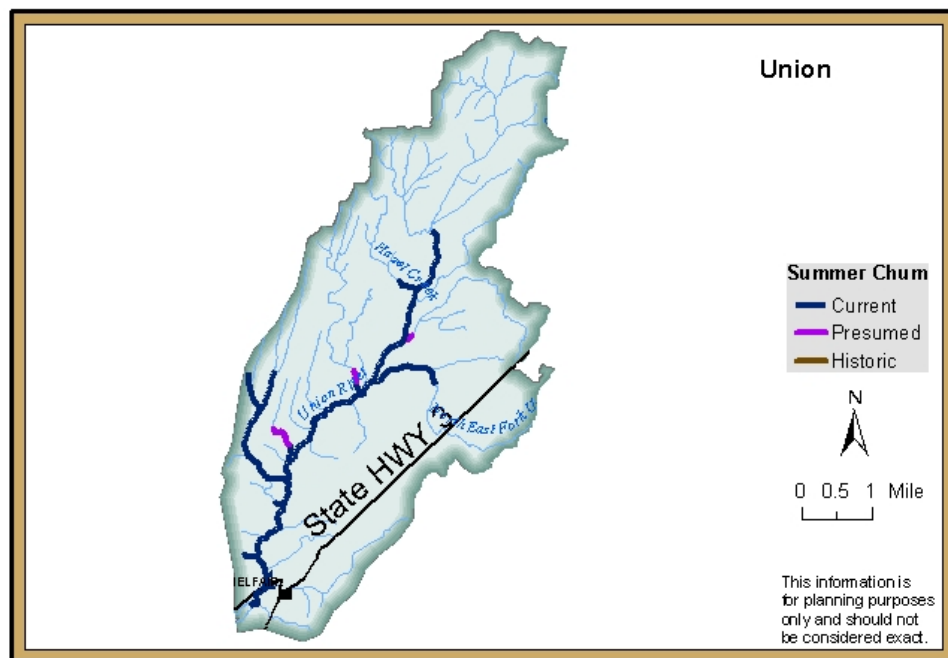
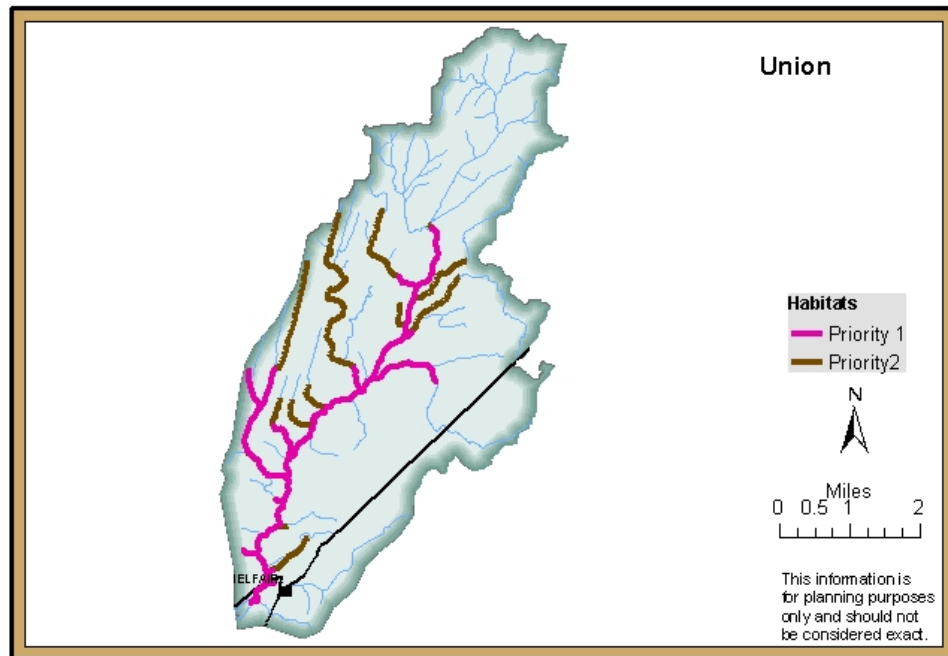


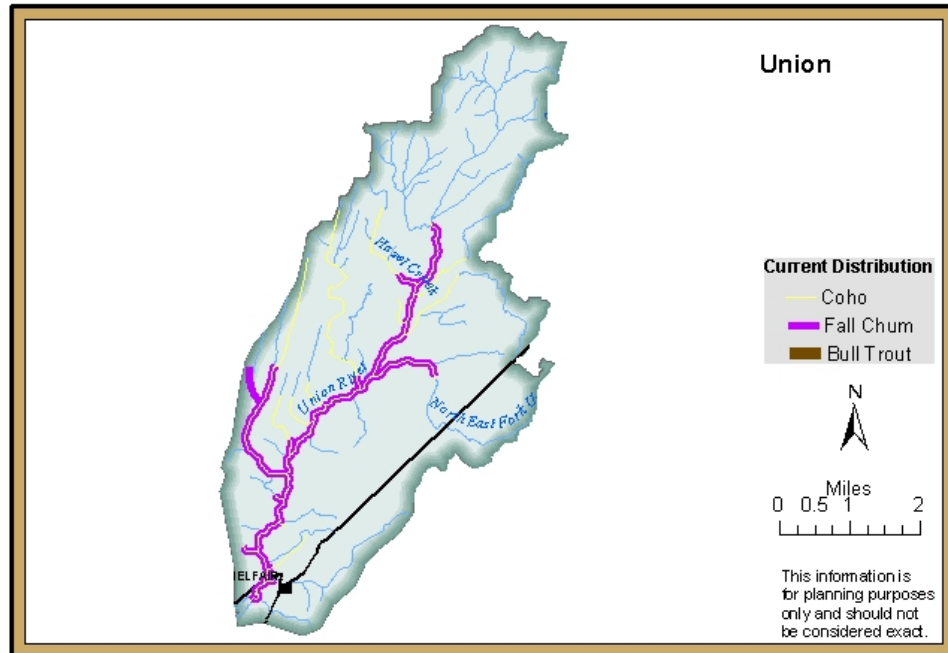
Skokomish River



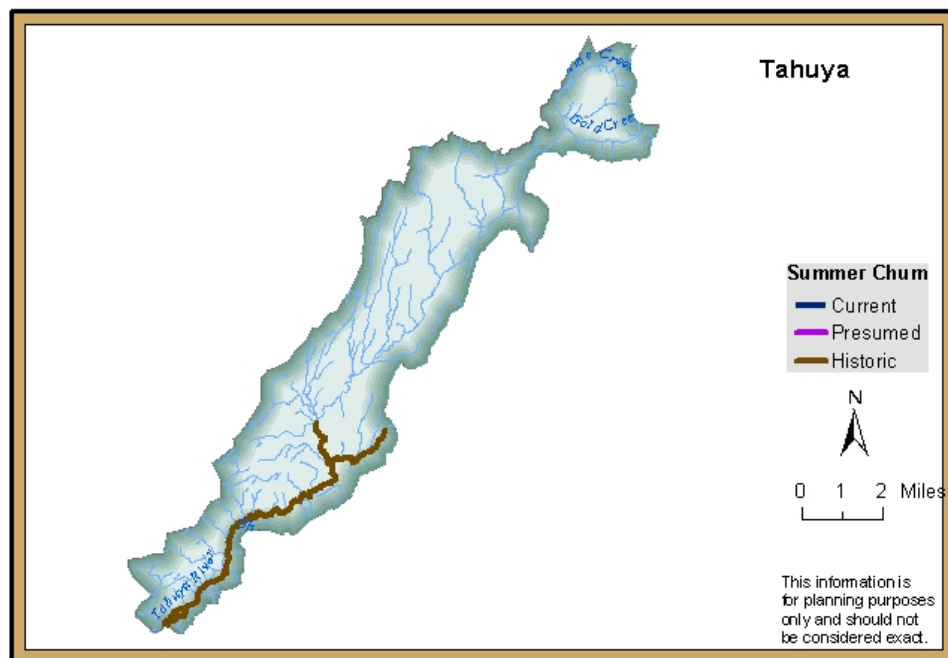
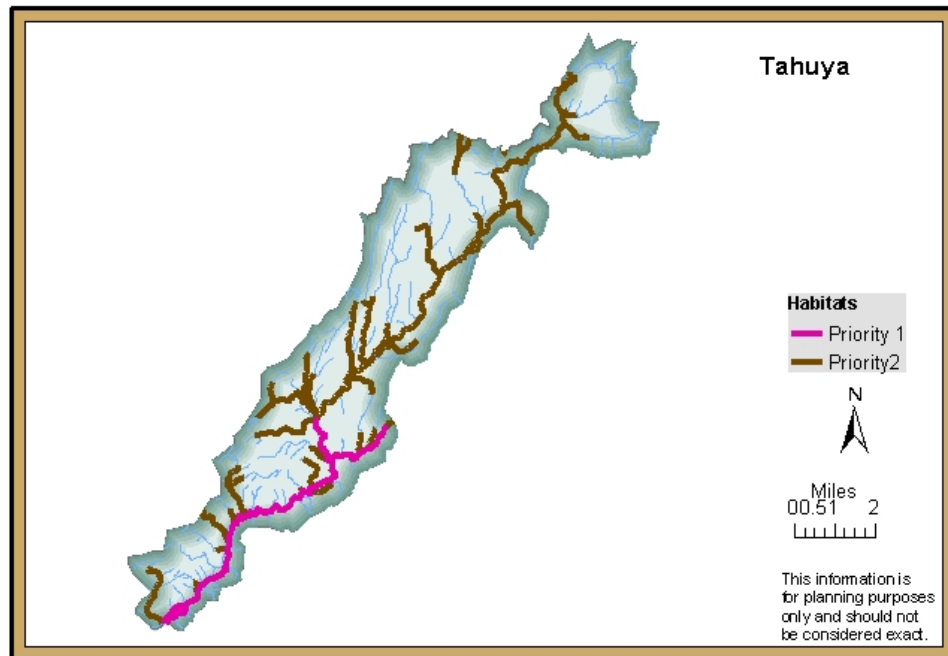


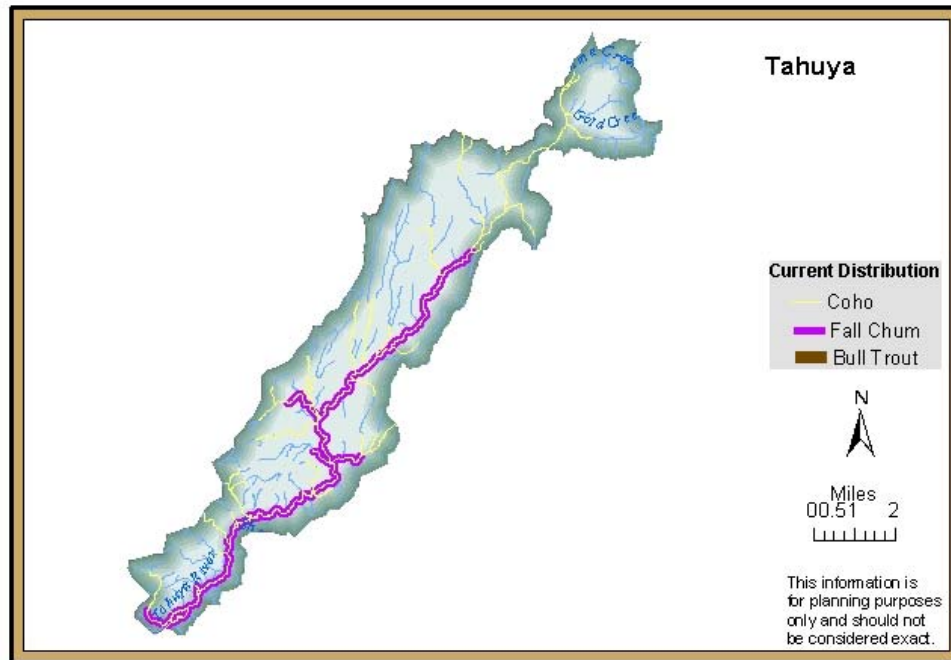
Union River





Tahuya River

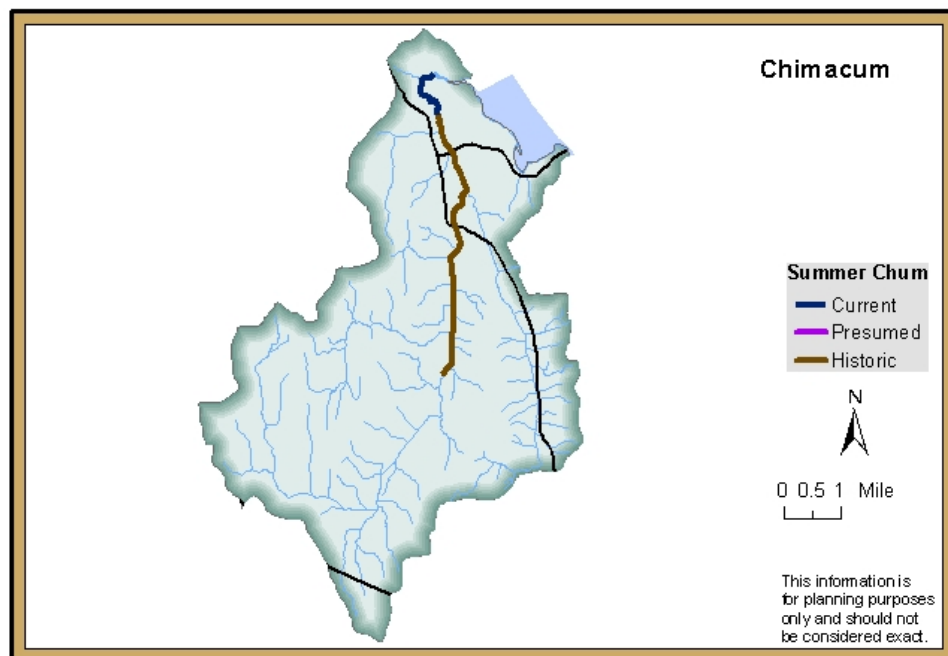
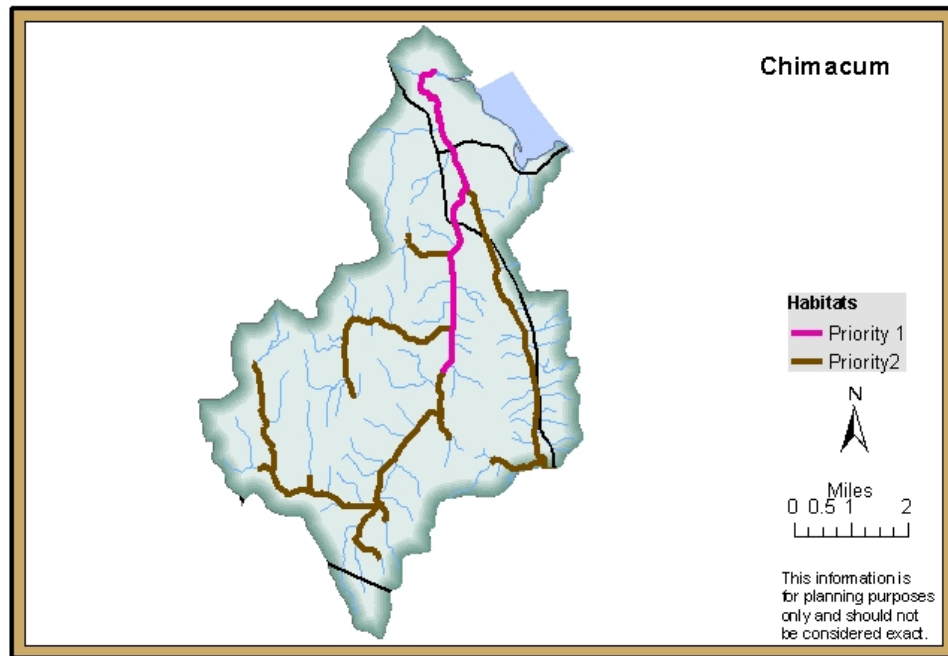


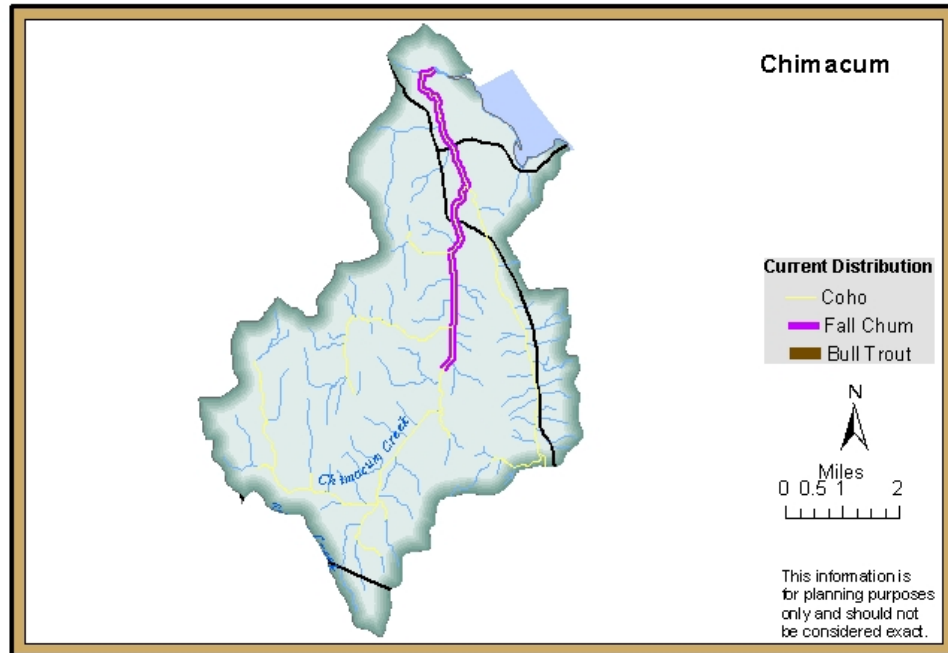


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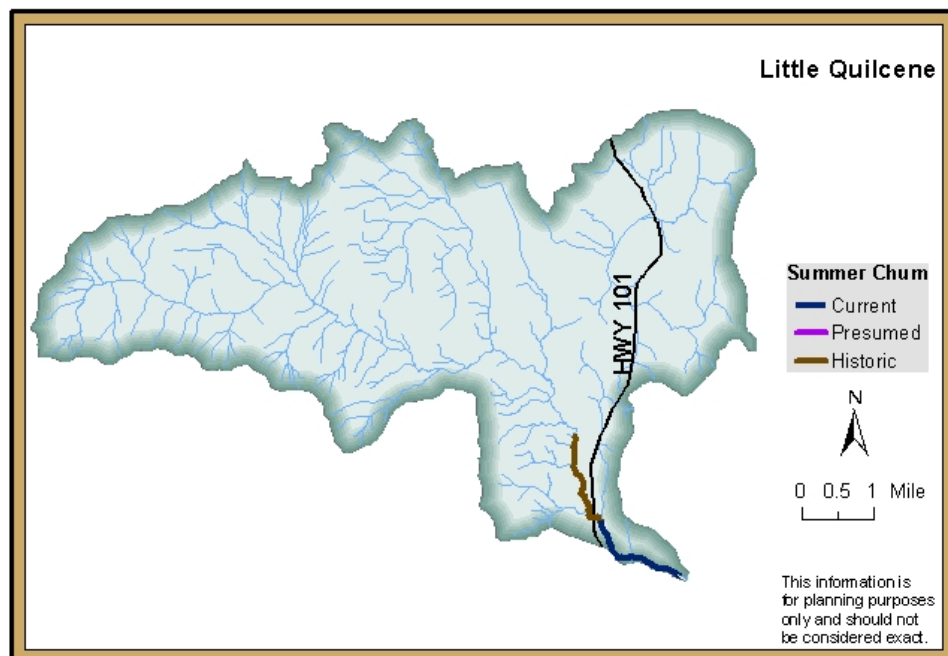
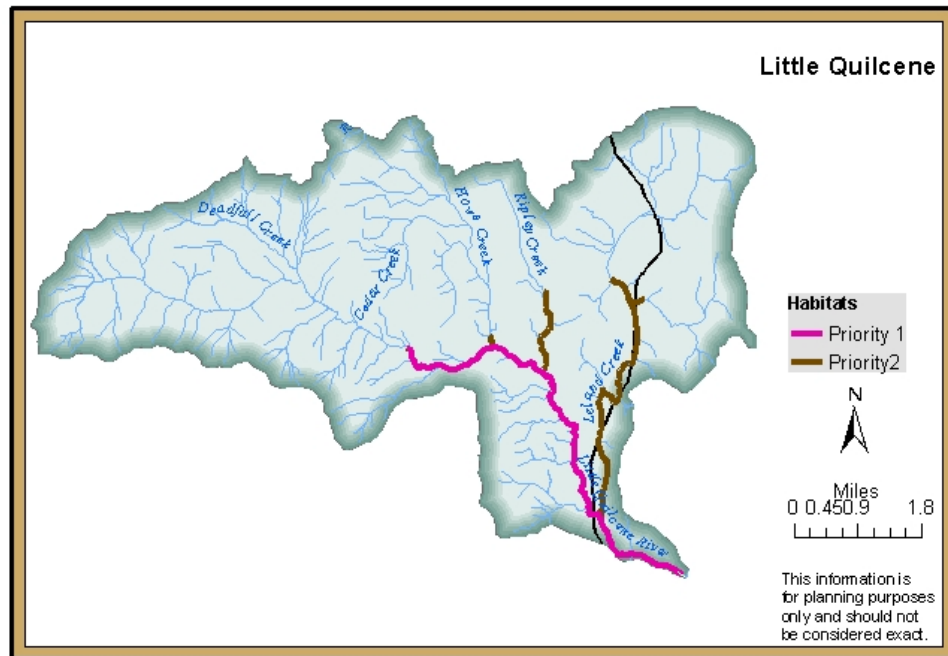
Watershed Projects (Tier II)

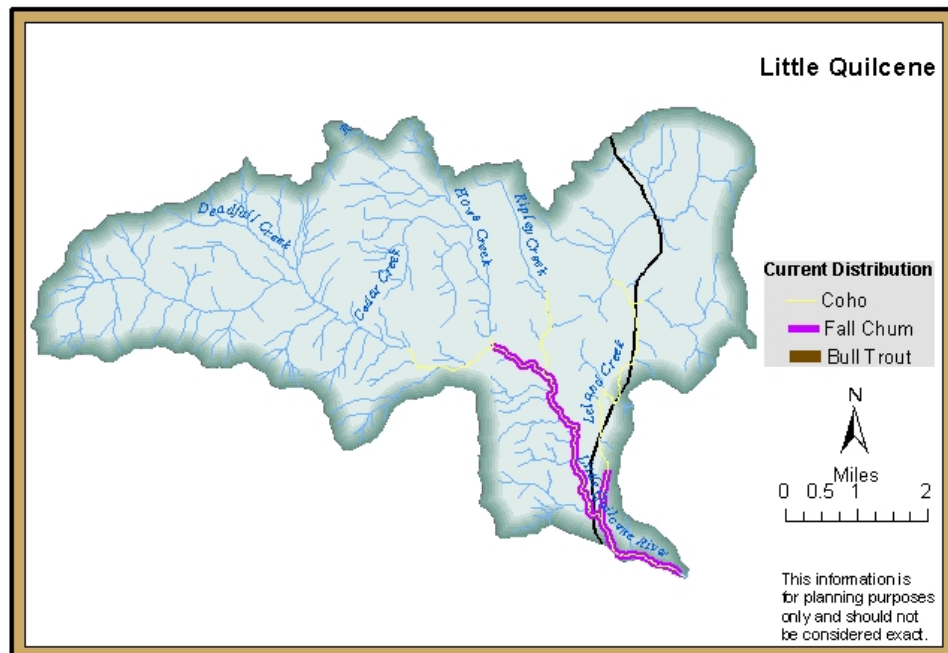
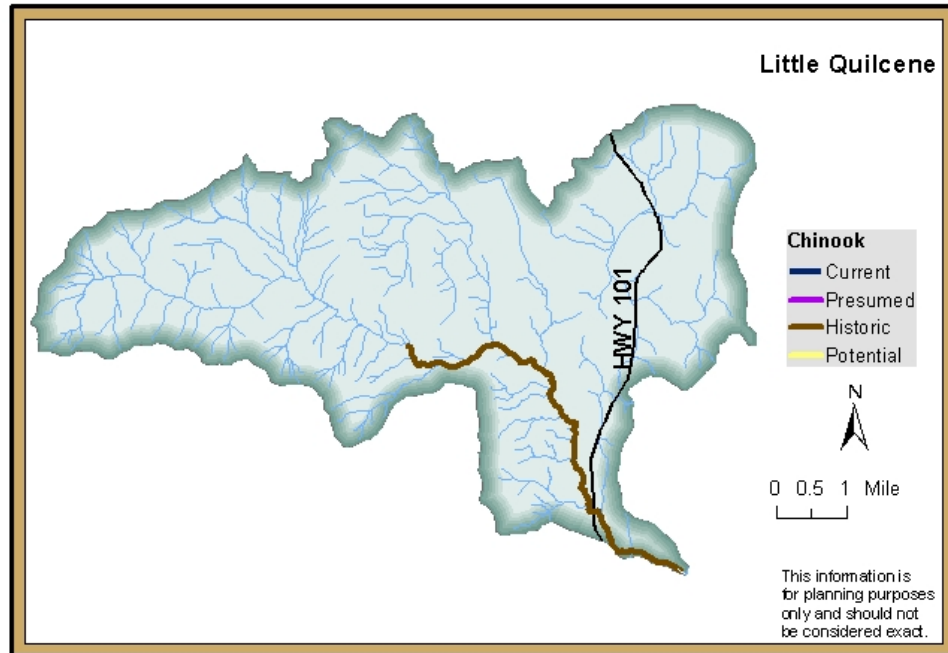
Chimacum Creek



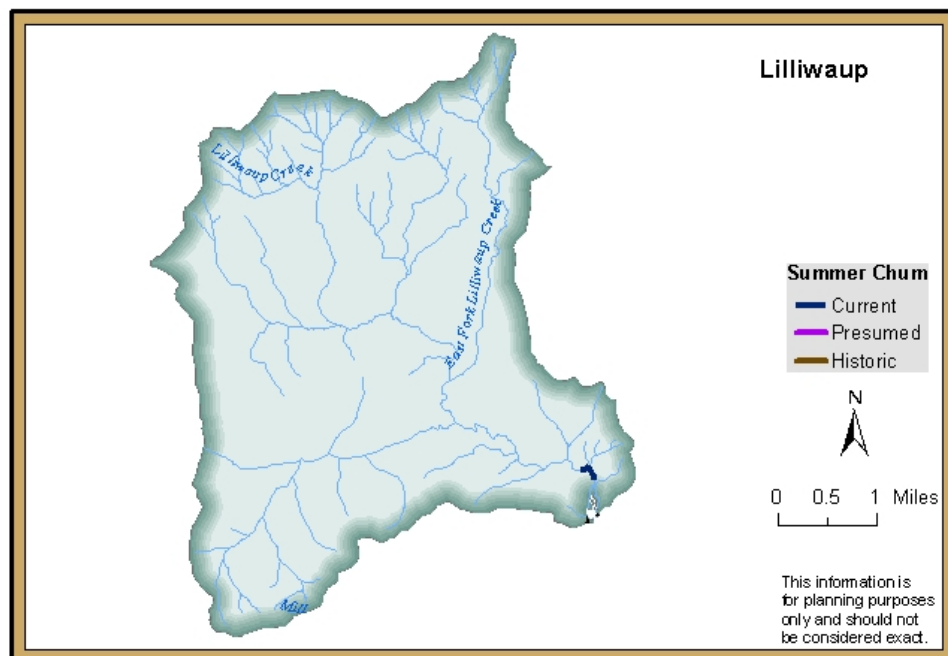
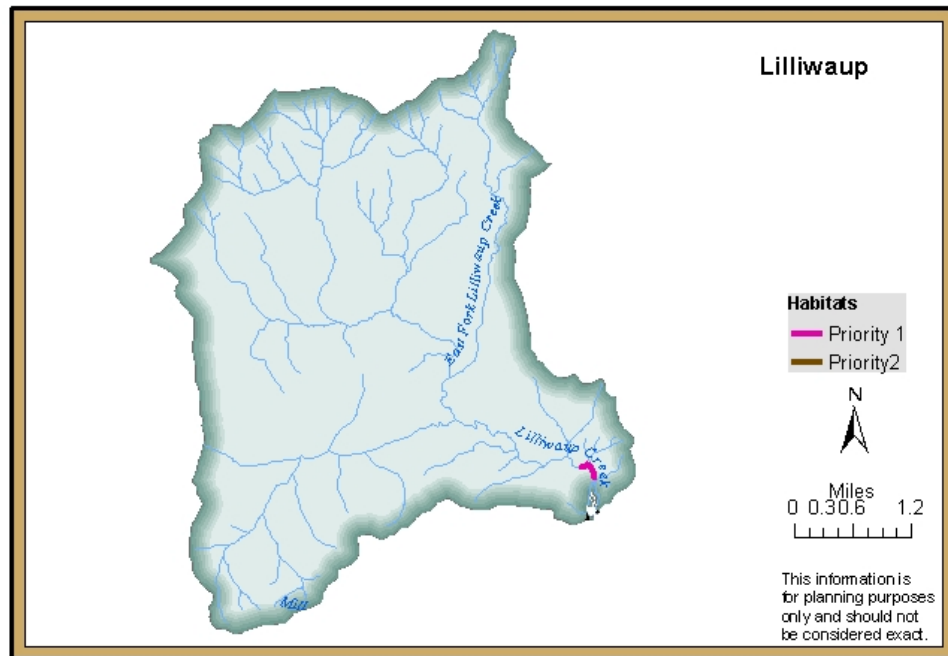


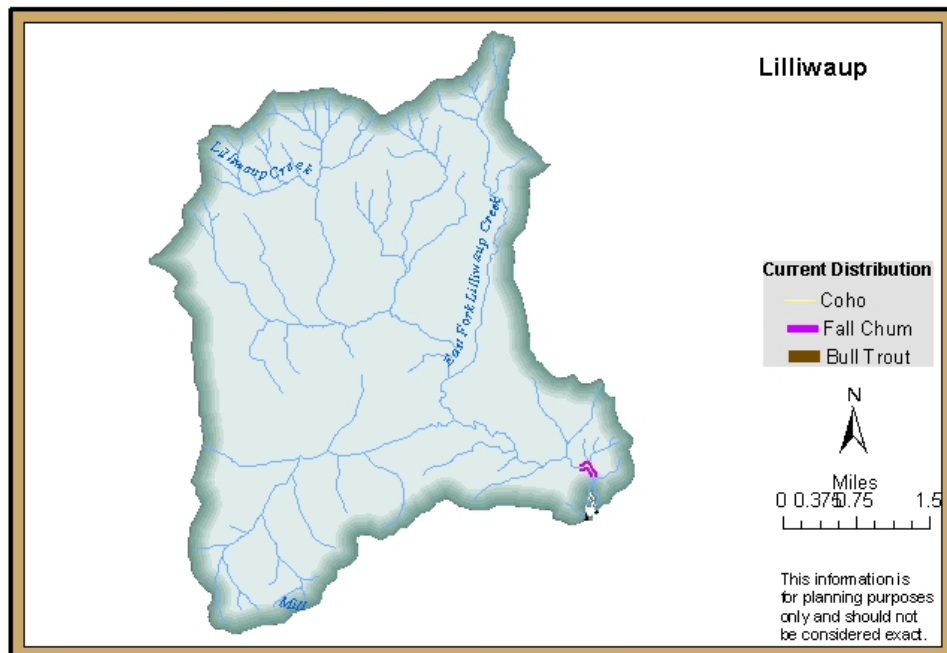
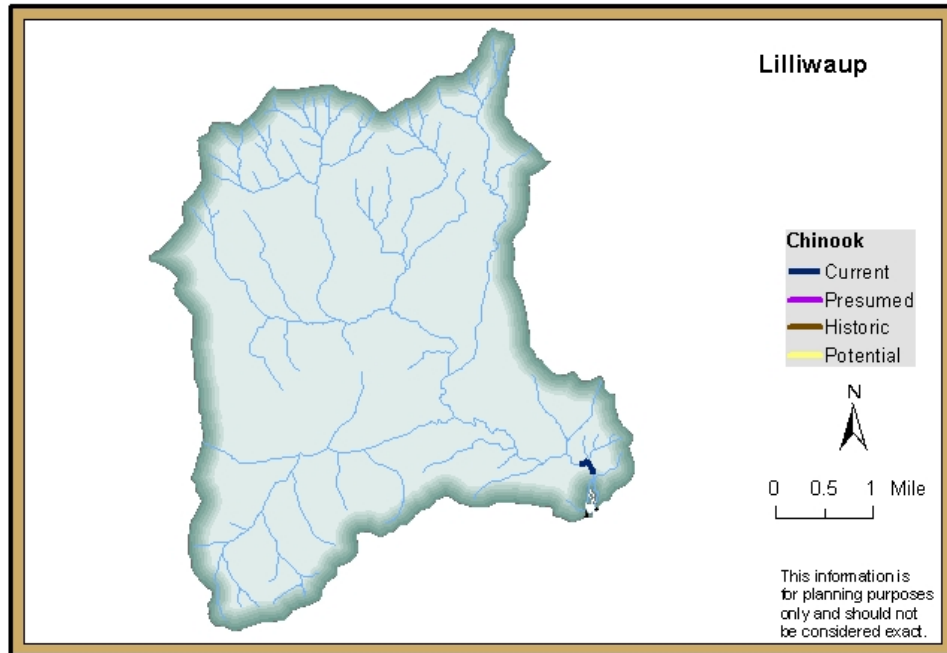
Little Quilcene River



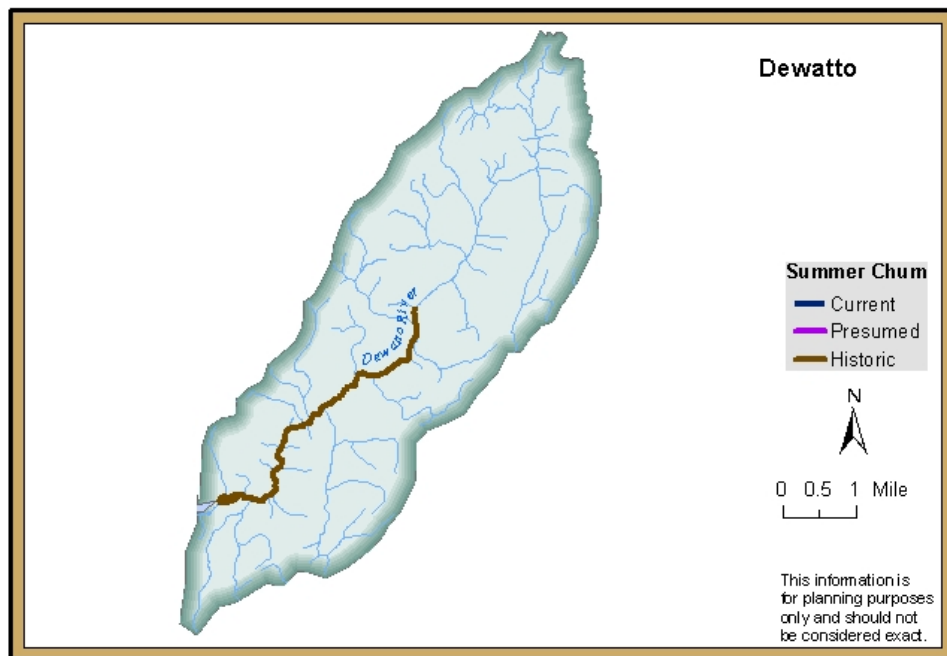
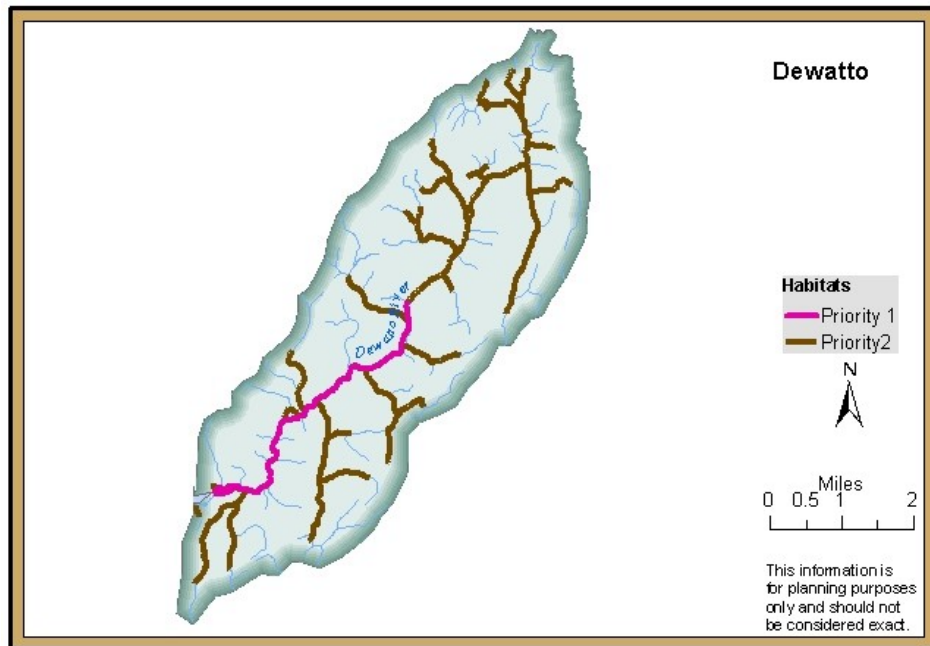


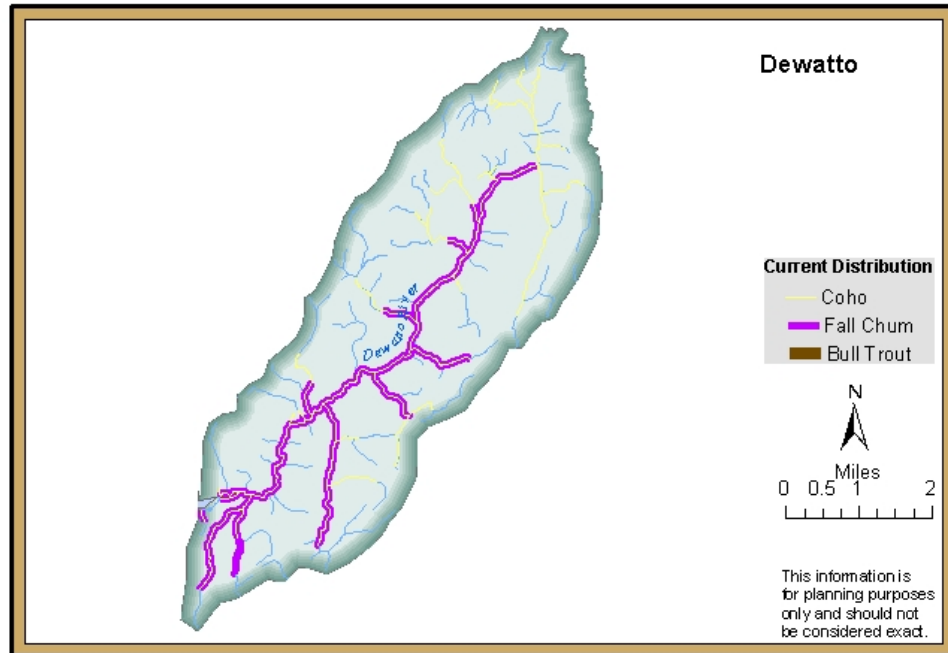
Lilliwaup Creek



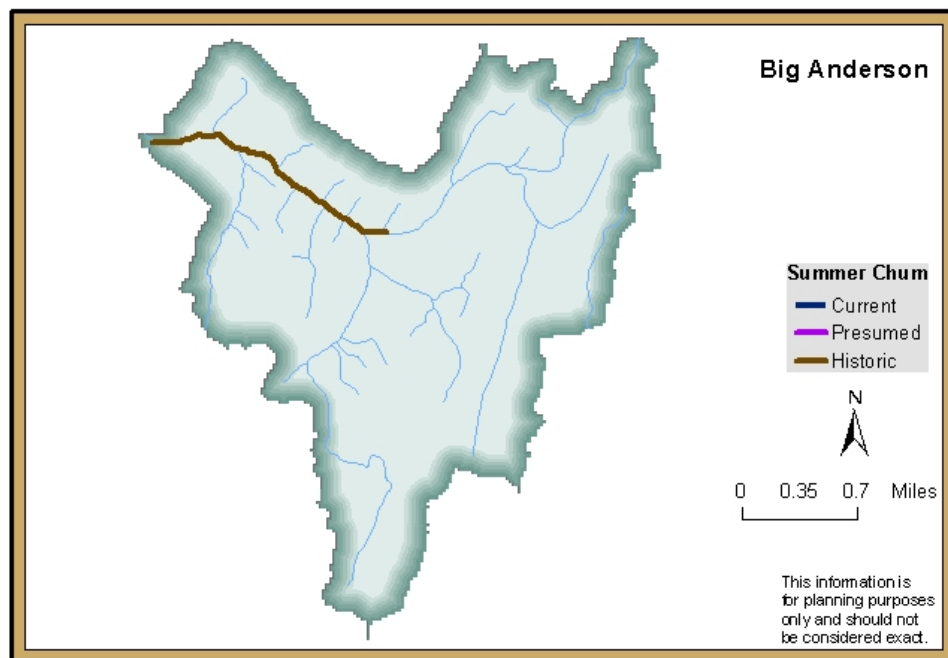
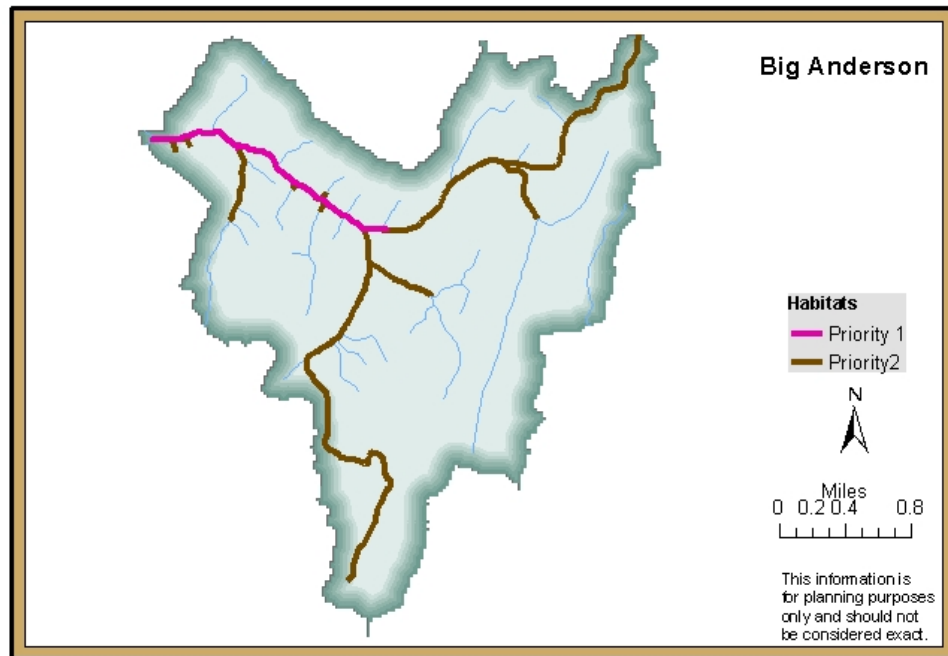


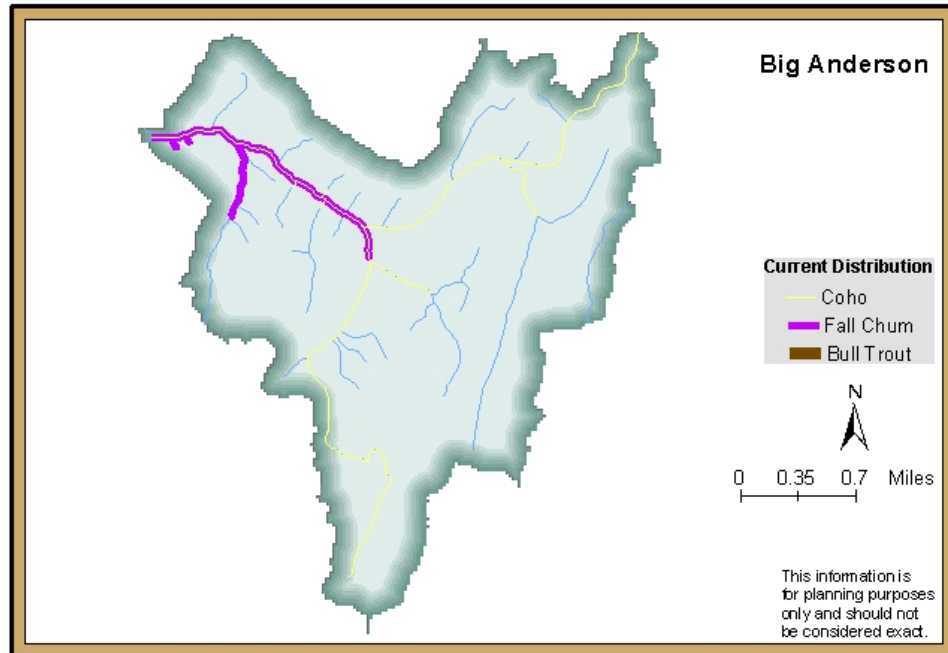
Dewatto River



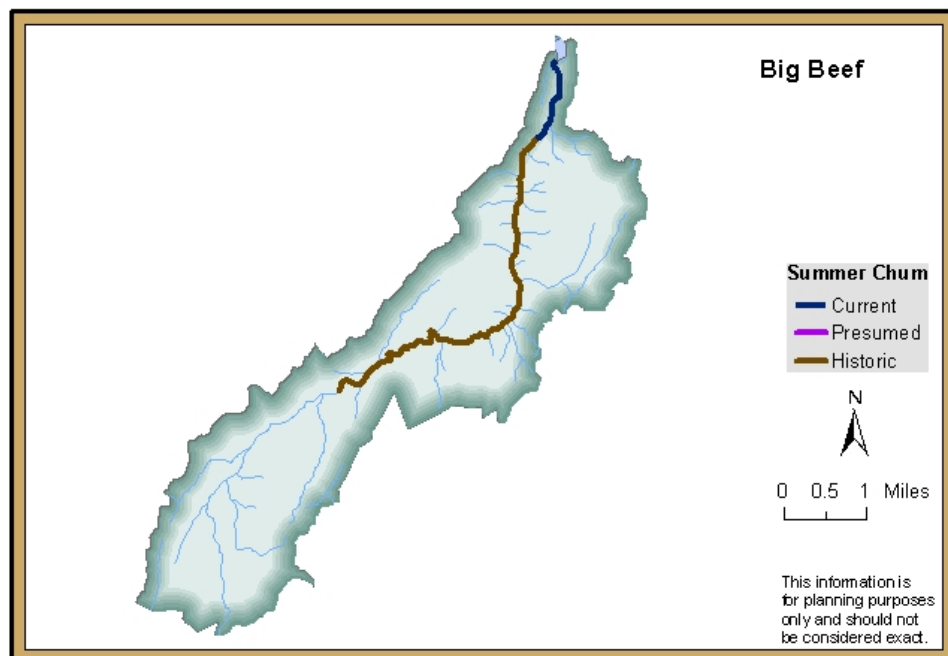
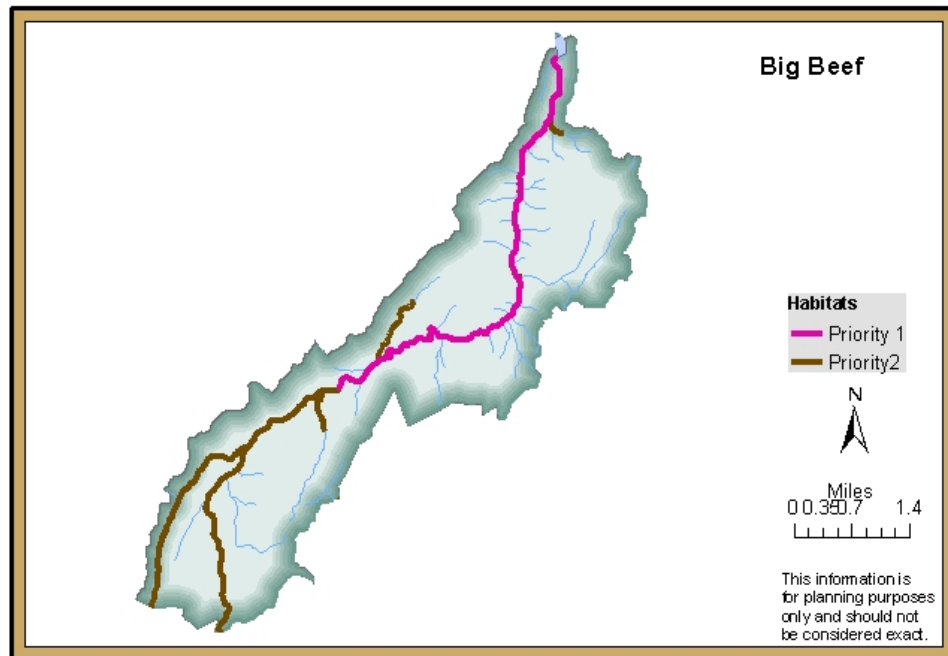


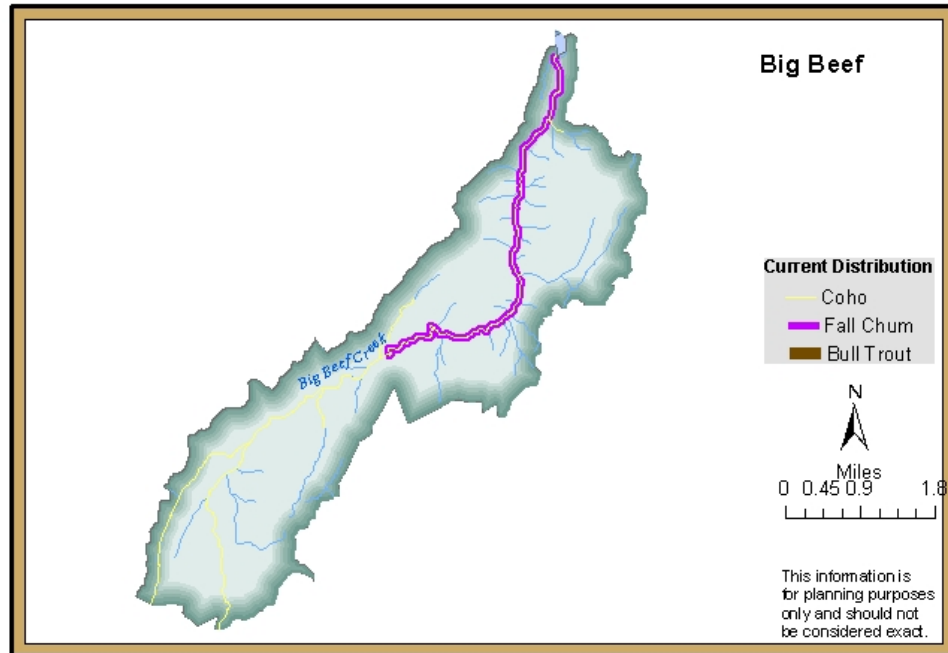
Big Anderson Creek





Big Beef Creek





Prioritized Nearshore Action Recommendations for Tier One and Two Watersheds in the HCCC Lead Entity Region Version 12.12.03

Numerous nearshore action recommendations were developed for the Hood Canal Coordinating Council Lead Entity Region through the Limiting Factors Analyses (LFA) for WRIs 17, 16, and 15/14 by the Washington State Conservation Commission and the Technical Advisory Groups (TAG.) These actions are recommended to help achieve salmon recovery, taking into account estuarine and nearshore processes and functions. Multiple individuals were present throughout each of the LFA WRIA processes, ensuring consistency in approach. The TAG accepted the task of prioritizing action recommendations for the nearshore by developing criteria to guide the assignment of values to each of four parameters. The parameters used in the LFA process include proximity to priority watersheds as assigned by the HCCC Salmon Habitat Recovery Strategy, spatial scale, temporal scale, and ecological scale.

Revisions to the Strategy included adopting action recommendations from the LFAs. Since the Strategy has its own hierarchy for assigning the proximity criteria, that data was dropped from the LFA approach, leaving three parameters. These nearshore recommendations and their parameter values are presented below for Tier 1 and Tier 2 watersheds only. The remaining recommendations can be found in the LFAs. The recommendations for each estuary and the associated nearshore corridor are broken into three bins of decreasing priorities.

Spatial Scale, maximum 5 points

The spatial scale of the recommendation and its associated benefits was evaluated as follows:

- The action received the maximum of **5 points** if the project protected and/or restored greater than 10 acres of habitat.
- The action received **4 points** if the action protected and/or restored 5 to 10 acres of habitat.
- The action received **3 points** if the action protected and/or restored 2 to 5 acres of habitat.
- The action received **2 points** if the project protected and/or restored ½ to 2 acres of habitat.
- The action received **one point** if the project protected and/or restored less than ½ acre of habitat.

Ecological Scale, maximum 5 points

The ecological scale was designed to evaluate impacts to nearshore processes. If the action addressed multiple processes, species and life histories, it received a higher value. For example, if an action recommendation involved estuary restoration that would affect both nearshore and riverine processes, such as dike removal in the lower floodplain and estuary, it received a higher score than one

that involved fewer processes, such as the removal of individual creosoted pilings, which systematically received one point.

Temporal Scale, maximum 3 points

The temporal scale was designed to evaluate the benefit of the recommended action over time. If the action recommendation restored a nearshore process, which is long term by nature, it received a higher score than a project that requires a lot of maintenance.

General, Basin-wide Recommendations

In addition to the site-specific recommendations, there are some general basin-wide recommendations that should be considered when determining nearshore restoration actions to pursue or when making policy and/or regulatory decisions. These include:

- Protection/restoration of sediment sources/naturally eroding bluffs
- Protection/restoration of estuaries and other salt marsh habitats
- Protection/restoration of riparian function
- Removal of intertidal fill
- Proper treatment of stormwater and wastewater
- Removal of creosoted pilings
- Consolidation of docks and rail launches
- Soft bank technology to replace armored banks

Waterbody	Id	Action recommendation	Ecology photo reference	Spatial scale	Ecological scale	Time scale	Sum
Salmon/Snow	89	Remove railroad grade, fill, and levees along estuary to restore salt marsh and tide flats		5	5	3	13
Salmon/Snow	88	Remove part of the railroad grade to open up a salt marsh to tidal action for better access for fish		3	4	3	10
Salmon/Snow	91	Remove railroad grade and road fill between ponds to open up tidal flow		3	3	3	9
Salmon/Snow	90	Control exotic vegetation		4	2	2	8
Quilcene Bay	8	Remove dikes on WDFW property on the Big Quilcene River		5	5	3	13
Quilcene Bay	9	Purchase properties and remove dikes south of the Big Quilcene River to restore salt marsh habitat		5	5	3	13
Quilcene Bay	10	Restore sinuosity in the Big Quilcene River in the historical tidally influenced area		5	5	3	13
Quilcene Bay	11	Remove the left bank dike along the Little Quilcene River and nearshore		5	5	3	13
Quilcene Bay	12	Purchase conservation easement and set back right bank dike along the nearshore associated with the Little Quilcene River to restore salt marsh habitat		5	5	3	13
Quilcene Bay	13	Restore sinuosity in the Little Quilcene River in the historical tidally influenced area		5	5	3	13
Quilcene Bay	14	Remove artificially aggraded delta cone at mouth of Big Quilcene River		4	5	3	12
Quilcene Bay	15	Remove artificially aggraded delta cone on Little Quilcene River		4	5	3	12
Quilcene Bay	16	Replace Donovan Ck. Culvert at mouth with an appropriate alternative to restore estuary function		5	5	2	12
Quilcene Bay	17	Remove landfill and bulkhead to restore historic saltmarsh and intertidal habitat between Boat Haven Marina and Indian George Creek.		5	4	3	12
Quilcene Bay	18	Acquire and remove fill area slated for development along the east side of Quilcene Bay		3	3	3	9
Quilcene Bay	19	Remove abandoned creosoted RR pilings in Quilcene Bay particularly south of Quilcene along W side of Bay		2	3	3	8
Dosewallips	9	Remove dikes in vicinity of mainstem Dosewallips River and estuary	103640	5	5	3	13
Dosewallips	8	Remove dike between Wolcott Slough and the Dose mainstem on WSP ownership	103652	5	4	3	12
Dosewallips	5	Wolcott Slough: replace SR 101 culvert at northern part of Wolcott Slough with a bridge provide tidal channel connection with bridgeway over access road to east of SR101 replace undersized culvert with bridge over slough to the south remove dikes, connect upper tidal channel west of SR 101 with larger lagoon with a bridge on the access road	103720	5	4	2	11
Dosewallips	6	Sylopash slough tidal prism and riparian resotration	103704	4	4	2	10
Dosewallips	7	Examine seal exclusion fence and/or look at alternatives	103652	2	3	3	8
Dosewallips	10	Remove barge at mouth of Walker Creek	103632	1	4	3	8
Dosewallips	1	Remove paved area/boathouse and pilings associated with housing development north of Seal Rock campground to reestablish sediment drift and migration corridor	104236	1	3	3	7
Dosewallips	4	Remove derelict structure fill and riprap associated with aquaculture between Seal Rock and Dose	104156	1	3	3	7
Dosewallips	2	Investigate and remove if necessary riprap at Seal Rock Campground parking lot	104202	1	2	3	6
Dosewallips	11	Remove pilings to the south of Walker Creek	103544	1	2	3	6
Dosewallips	3	Investigate drainage at Seal Rock Campground parking lot and ameliorate if necessary	104202	1	2	2	5
Duckabush	17	Elevate SR101 across estuarine delta to restore tidal connectivity, reestablishment of native vegetation	102944	5	5	2	12
Duckabush	19	Reconnect northern distributary channel with the Duckabush River	102848	5	4	3	12

Waterbody	Id	Action recommendation	Ecology photo reference	Spatial scale	Ecological scale	Time scale	Sum
Duckabush	16	Remove dike along north side of estuary along Robinson Road	102852	3	3	3	9
Duckabush	18	Reconfigure intersection of SR101 and Duckabush River Road to reconnect Pierce Creek Slough	102849	3	4	2	9
Duckabush	15	Improve connection the small creek flowing through undersized culvert into the nw corner of Duckabush estuary	102852	2	3	2	7
Duckabush	20	Restore Pierce Creek and tidal connectivity by bridging Shorewood Road and restoring riparian function		2	3	2	7
Hama Hama	42	Remove all levees/dikes and armoring, particularly mainstem dike, the dike along the north side of the estuary, and other minor dikes to restore mainstem channel, tidal channels, and estuary function	102046 101650 101652	5	5	3	13
Hama Hama	48	Relocate SR101 to the west, acquire historic estuarine properties, and restore Jorsted Creek estuary	101530	5	5	3	13
Hama Hama	41	Replace SR101 causeway/bridge with an elevated structure across the entire delta	102046 101650 101652	5	5	2	12
Hama Hama	43	Remove bulkhead and fill that forms an unused part of a parking lot to the north of shellfish facility to restore salt marsh habitat	101630	3	4	3	10
Hama Hama	38	Remove fill and relocate structures along north side of Wacketickeh estuary	102110	2	3	3	8
Hama Hama	46	Remove creosote pilings to north of Jorsted Creek	101538	3	2	3	8
Hama Hama	47	Remove armoring, fill and log skid apparatus to north of Jorsted Creek	101538	1	3	3	7
Hama Hama	40	Remove creosote pilings	102052	1	2	3	6
Hama Hama	44	Remove pilings from existing spit	101646	1	2	3	6
Hama Hama	45	Remove exotic vegetation in the vicinity of shellfish facility and replant with native conifers and shrubs	101624	2	2	2	6
Hama Hama	39	Extend bridge across the Wacketickeh to reestablish lost tidal channel	102110	1	3	2	6
Skokomish	95	Remove Nalley Island dikes/ levees, roads, borrow ditches and tide gates	153518	5	5	3	13
Skokomish	96	Remove left bank dikes/ levees, roads, borrow ditches and tide gates		5	5	3	13
Skokomish	94	Remove bulkheads and fill and restore 6 acres of salt marsh along the east side of the delta	152522	4	4	3	11
Skokomish	98	Remove TPU maintenance/access roads with the delta		5	3	3	11
Skokomish	99	Relocate TPU transmission towers to follow SR 106		5	3	3	11
Skokomish	97	Relocate access road to shellfish beds that extends into intertidal zone at the Skokomish Delta		4	4	2	10
Skokomish	89	Remove fill to historic shoreline midway through parking lot at Cushman boat launch and revegetate with native species	100434	3	3	3	9
Skokomish	91	Daylight lower Minerva Creek and restore estuary function	100428	3	3	3	9
Skokomish	92	Remove fill and restore historic salt marsh and tidal channels at Potlatch State Park	100418	3	3	3	9
Skokomish	93	Reconstruct hatchery trapping facility to allow better estuary function and tidal channel connectivity at Enetai	100358	2	4	2	8
Skokomish	100	Pull pilings from within the delta of old Potlatch Lagoon to restore intertidal wetland	153204	1	3	3	7
Union	61	Remove the dike and tide gates at Belfair State Park	150410	5	5	3	13
Union	68	Restore salt marsh habitat at the farm on the east bank of the mouth of the Union River	151120	5	5	3	13
Union	69	Monitor borrow ditches and remnant dikes on the salt marsh of Lynch Cove to ensure natural formation of dendritic tidal channels	150732	5	5	3	13
Union	60	Remove fill at Belfair State Park and restore lost salt marsh habitat	150410	5	4	3	12
Union	66	Remove dikes and tide gates at the Klingel Wetlands and fill dike borrow pits	150456	4	4	3	11

Waterbody	Id	Action recommendation	Ecology photo reference	Spatial scale	Ecological scale	Time scale	Sum
Union	59	Remove levees, young alders, and aggraded delta cone on Little Mission Creek to allow more natural sediment routing in estuary	150356	3	4	3	10
Union	63	Remove fill at Snooze Junction and restore lost salt marsh habitat	150414	2	5	3	10
Union	64	Remove the private road east of Snooze Junction to restore tidal access to salt marsh west of the road	150422	2	4	3	9
Union	62	Restore forested riparian buffers at Belfair State Park	150410	3	3	2	8
Union	67	Remove fill, pool, and infrastructure to the east of the Klingel Wetlands and restore lost salt marsh habitat	150500	2	3	3	8
Union	65	Remove the small concrete pool, boat ramp, fill, and bulkhead at Lynch Cove Community Park to restore lost salt marsh	150436	1	3	3	7
Tahuya	54	Remove intertidal fill in the vicinity of Caldervin Creek and restore lost mudflat and salt marsh habitats	145342, 145406	5	5	3	13
Tahuya	57	Evaluate the bridge span at the Northshore Road crossing of the Tahuya River for impaired tidal circulation and if necessary construct a longer span to improve tidal flow.	145414a	5	5	2	12
Tahuya	55	Remove the helicopter landing pad on the left bank of the Tahuya River downstream from Northshore Road	145550	1	4	3	8
Tahuya	56	Remove log structures in old log yard on western end of Tahuya bridge	145414a	2	3	3	8
Tahuya	58	Store floating docks on upland areas during the winter months rather than stockpiling along the right bank of the Tahuya downstream from Northshore Road	145414a	2	2	3	7
Chimacum		Action Recommendations Completed					
Little Quilcene		See Big Quilcene River for Action Recommendations					
Lilliwaup	59	Restore sediment supply from feeder bluff	101202-101122	5	5	3	13
Lilliwaup	60	Extend SR101 bridge span and remove shoulders/fill	101100	5	5	2	12
Lilliwaup	62	Remove trout pond diking, set back structures and roads and expand access road bridge		3	4	3	10
Lilliwaup	67	Remove bulkhead, fill, structures and groins at Lilliwaup Point to restore nearshore processes and juvenile migration corridor	100908	2	3	3	8
Lilliwaup	61	Remove fill and development seaward of southern bridge abutment of SR101 to reestablish salt marsh habitat	100928	1	3	3	7
Lilliwaup	63	Daylight creek to falls on right bank of Lilliwaup estuary west of SR101 bridge	100932	1	3	3	7
Lilliwaup	65	Remove concrete bulkhead and fill on point southeast of Little Lilliwaup Creek to restore nearshore process and migration corridor	100914	1	3	3	7
Lilliwaup	66	Remove boathouse southeast of Little Lilliwaup Creek to restore sediment drift and migration corridor	100914	1	3	3	7
Lilliwaup	64	Replace undersized culvert at SR101 with bridge	100912	1	3	2	6
Dewatto	48	Remove abandoned dikes on the salt marsh at the head of Dewatto Bay	144654	5	5	3	13
Dewatto	49	Remove fill and restore lost mudflat habitat at the Oyster House and artificial boat basin on the south shore of Dewatto Bay.	144654	3	5	3	11
Dewatto	47	Restore tidal processes and salt marsh habitat at the unnamed stream about one mile north of the mouth of Dewatto Bay.	144332	1	4	3	8
Dewatto	50	Remove old pilings in Dewatto Bay, near Red Bluff, and on the Rendsland Creek delta	144700, 144928, 145104, 145118	1	2	3	6

Waterbody	Id	Action recommendation	Ecology photo reference	Spatial scale	Ecological scale	Time scale	Sum
Big Anderson	42	Remove old railroad grade and pilings from the head of Anderson Cove. Assess impacts to Holly Road.	151622	3	5	3	11
Big Anderson	45	Restore historic salt marsh and lagoon habitats at the community of Holly.	151644	3	3	3	9
Big Anderson	44	Remove the county road along the north shore of Anderson Cove (traffic could be rerouted to the road immediately to the north) and revegetate the riparian zone with native plants.	151622	2	3	3	8
Big Anderson	43	Eradicate invasive Japanese Knotweed from Anderson Cove.	151622	1	2	1	4
Big Beef	31	Restore natural tidal influence and sediment transport in the Big Beef Creek subestuary.	145346	5	5	2	12
Big Beef	30	Restore tidal processes and lost salt marsh habitat at the mouth of Johnson Creek	145216	2	5	3	10